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In the Supreme Court of the United States

OCTOBER TERM, 1992

UNITED STATES OF AMERICA, PETITIONER

v.

GRANITE CONSTRUCTION COMPANY

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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QUESTION PRESENTED

For the last 30 years, federal procurement regulations have required that substantially all federal construction contracts include a clause providing that a contractor "shall, without charge," correct "any" work that does not conform to contract specifications, "unless in the public interest the Government consents to accept" the nonconforming work "with an appropriate adjustment in contract price."

The question in this case is whether, under this clause or under federal common law, the doctrine of "economic waste" applies to federal contracts for the construction of public works, and thereby imposes on the government an enforceable duty to excuse a contractor from liability for correcting nonconforming work if the work is adequate for its intended purpose and correction would be unduly expensive.

PARTIES TO THE PROCEEDING

Petitioner, the defendant below, is the United States of America. Respondent, the plaintiff below, is Granite Construction Company.

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GRANITE CONSTRUCTION COMPANY

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

The Solicitor General, on behalf of the United States of America, petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

OPINIONS BELOW

The opinion of the court of appeals (App., *infra*, 1a-23a) is reported at 962 F.2d 998. The opinion of the Claims Court (App., *infra*, 24a-52a) is reported at 22 Cl. Ct. 831. The opinion of the Corps of Engineers Board of Contract Appeals (App., *infra*, 54a-104a) is reported at 89-1 B.C.A. (CCH) ¶ 21,447.

JURISDICTION

The judgment of the court of appeals was entered on April 1, 1992. A petition for rehearing was denied on May 29, 1992. App., *infra*, 105a. On August

18, 1992, Chief Justice Rehnquist extended the time for filing a petition for a writ of certiorari to and including September 28, 1992. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATUTORY AND REGULATORY PROVISIONS INVOLVED

The relevant statutory and regulatory provisions are reproduced at App., *infra*, 107a-118a.

STATEMENT

During construction of a federally funded lock and dam project, the Army Corps of Engineers discovered that the water sealant that respondent was using on the project did not conform to the contract specifications established by the Corps. The contracting officer required respondent to replace the nonconforming material. In this action by respondent to recover the cost of replacing the nonconforming material, the Claims Court denied recovery based on the longstanding rule that the government has the right to insist upon strict compliance with requirements set forth in its contracts. The United States Court of Appeals for the Federal Circuit reversed that decision, adopting for the first time an "economic waste" exception to the strict compliance rule. Under this newly minted exception, the government may not require a contractor to correct nonconforming work at its own cost if the work is adequate for its intended purpose and correction would be "economically wasteful."

1. In 1976, the Army Corps of Engineers awarded respondent Granite Construction Company (Granite) a $36 million contract for construction of a lock and

dam project near Aberdeen, Mississippi.[1] The project was to be constructed by pouring large concrete monoliths and then sealing the gaps between the monoliths with a polyvinylchloride sealant known as "waterstop." The purpose of the waterstop was to prevent the project from leaking. App., *infra*, 57a. The contract included detailed specifications for the waterstop, which set forth numerical standards for properties such as tensile strength and low temperature brittleness. *Id.* at 65a-66a.[2] The contract also provided that "[t]he waterstop may be rejected if it fails to meet any of the requirements of these specifications." *Id.* at 66a (emphasis omitted).

Granite began pouring the monoliths and embedding the waterstop in April 1978. App., *infra*, 8a, 34a, 71a. In June 1978, after approximately 10% of the waterstop had been embedded, the Corps discovered that the waterstop was defective. *Id.* at 34a. Specifically, only one of five samples met the contract specifications for ultimate elongation and tensile strength. *Id.* at 9a, 34a, 75a.[3] The Corps rejected the

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[1] The Aberdeen lock and dam are part of a waterway project authorized by the Act of July 24, 1946, ch. 595, § 1, 60 Stat. 635 (approving waterway connecting the Tombigbee and Tennessee Rivers, as recommended in H.R. Doc No. 486, 79th Cong., 2d Sess. (1946)); see also 10 U.S.C. 2304(a).

[2] The waterstop specifications were developed by the Corps of Engineers for general use at waterway projects, rather than specifically for the Aberdeen lock and dam. App., *infra*, 63a-64a, 78a.

[3] The samples of waterstop that Granite initially provided to the Corps before construction began were tested by the Corps' Waterway Experiment Station (WES) in Vicksburg, Mississippi, and found to meet the contract specifications. App., *infra*, 67a-68a. Five samples from the batch of waterstop delivered to the construction site, however, were

waterstop and instructed Granite to replace it. Granite proposed several methods of repair short of replacement, which the Corps also rejected. Granite ultimately tore out the nonconforming waterstop and replaced it with waterstop that met the contract specifications. *Id.* at 10a, 35a-37a, 78a-82a.

Granite then filed a claim with the contracting officer seeking additional compensation for replacing the nonconforming waterstop.[4] The contracting officer denied the claim. Compl. Exh. B.

2. The Corps of Engineers Board of Contract Appeals affirmed the denial of Granite's claim for additional compensation. The Board first rejected Granite's argument that the government was at fault for failing to discover that the waterstop was defective before Granite began installing it. The Corps had tested an initial batch of waterstop provided by Granite and found that it met contract specifications. See note 3, *supra*. The Board found that the Corps initially did not perform additional tests because "[t]he Contractor assured the Government that all the material being used was from the first approved batch of waterstop material—which was not true." App., *infra*, 88a. Moreover, the Board determined that the contract placed the burden on Granite, not

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later tested by WES and did not meet the specifications for ultimate elongation and tensile strength. App., *infra*, 74a-75a. Further testing of additional samples of waterstop from the construction site yielded similar results: The additional samples did not meet the contract specifications for tensile strength, ultimate elongation, or low temperature brittleness. *Id.* at 75a-77a.

[4] Granite claimed that it cost $3.8 million to replace the defective waterstop. The government, on the other hand, estimated the cost to be approximately $400,000. App., *infra*, 21a.

the government, to ensure that the waterstop met contract specifications. *Id.* at 85a-87a.

The Board also rejected Granite's argument that "the Government should not have insisted that [Granite] tear out and replace the waterstop material already [embedded] * * * [because] the cost far exceeded the benefit from the replacement." App., *infra*, 89a. The Board observed that "[t]he Government has the right to insist on Contractor performance in strict compliance with its specifications." *Id.* at 88a. The Board refused to "substitute its judgment for the technical expertise of the Government, which found the specified waterstop material to be essential for the assured effectiveness of the project." *Id.* at 89a.

3. Granite then commenced this action in the Claims Court, seeking judicial review of the Board's decision pursuant to the Wunderlich Act, 41 U.S.C. 321-322.[5] On cross-motions for summary judgment, the court granted summary judgment in favor of the government and entered an order dismissing the com-

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[5] The Wunderlich Act governs judicial review of decisions by agency boards of contract appeals that relate to contracts executed before the effective date of the Contract Disputes Act of 1978 (CDA), 41 U.S.C. 601-613, unless the contractor elects coverage under the CDA. See App., *infra*, 4a. Jurisdiction over actions under the Wunderlich Act is conferred by the Tucker Act, 28 U.S.C. 1491. *United States* v. *Carlo Bianchi & Co.*, 373 U.S. 709, 713 (1963). The standard of review under the CDA and the Wunderlich Act are the same: A court may set aside the decision of an agency board of contract appeals only if the decision is arbitrary and capricious or not supported by substantial evidence in the record. See *Carlo Bianchi*, 373 U.S. at 715; see also App., *infra*, 38a n.4. Thus, the Federal Circuit's decision in this case is fully binding in cases arising under the CDA.

plaint. App., *infra*, 53a. The court upheld the Board's ruling that the contract "place[d] the onus on [Granite] * * * to ensure that the waterstop embedded in the concrete [met] contract specifications." App., *infra*, 42a. The court also agreed with the Board that "the government reasonably relied on [Granite's] certifications" that all of the waterstop came from the batch that was initially tested and approved. *Id.* at 43a.

The court rejected Granite's argument that "the Corps ha[d] no right to insist on strict compliance with the contract terms once the waterstop [was] installed" because "the waterstop was adequate for its intended purpose" and replacing it entailed "economic waste." App., *infra*, 45a. The court observed that "it is undisputed that the * * * waterstop embedded in the concrete failed to meet contract specifications." *Ibid.* The court also observed that "[Granite's] 'economic waste' theory * * * generally has not been adopted or followed by the Claims Court or its predecessor the Court of Claims." *Id.* at 48a n.17. The court accordingly relied on the "general rule that the government * * * is entitled to receive that for which it contracted" and held that "the government had the right to act as it did by rejecting all [nonconforming] * * * waterstop used on the project." *Id.* at 46a (citation and internal quotation marks omitted), 47a.

4. The United States Court of Appeals for the Federal Circuit affirmed in part and reversed in part. App., *infra*, 1a-23a. It affirmed the Claims Court's holding that, in light of Granite's misleading certifications, the Corps had not unreasonably delayed additional testing of the waterstop, and that the contract required Granite to ensure that the waterstop met contract specifications before it was

installed. *Id.* at 10a-13a. But the court of appeals reversed the Claims Court's holding that the government was entitled to insist upon strict compliance with the contract specifications for waterstop. *Id.* at 13a-22a.

The court of appeals began its analysis of the strict-compliance issue by examining clause GP-10(b) of the contract, a standard provision included in virtually all government construction contracts pursuant to the Federal Acquisition Regulation (FAR), 48 C.F.R. 52.246-12(f). Clause GP-10 stated:

> The contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price.

App., *infra*, 29a. The court observed that this clause gave the government "discretion to accept nonconforming waterstop if it was deemed adequate for the project." *Id.* at 15a. In the court's view, however, the clause also required the government "to consider the public interest when deciding whether to replace the nonconforming waterstop." *Ibid.*

Th court of appeals held that the government had abused its discretion under clause GP-10(b) by requiring Granite to replace the defective waterstop. In the court's view, it was arbitrary and capricious for the Corps to reject the repair methods that Granite had proposed on the ground that those methods did not satisfy contract specifications. App., *infra*, 15a-16a. Instead, the court held, the Corps was required to consider whether the proposed repairs "would render the waterstop adequate for the

project." *Id.* at 16a. Rather than remanding the case to the Board of Contract Appeals for further proceedings on the issue of the adequacy of the waterstop, the court accepted the testimony of Granite's expert before the Board that the nonconforming waterstop would have been adequate for the project. *Id.* at 16a-19a.

The court of appeals recognized that "the government generally has the right to insist on performance in strict compliance with the contract specifications and may require a contractor to correct nonconforming work." App., *infra*, 19a. Further, the court acknowledged that the Federal Circuit had never recognized an "economic waste" exception to the doctrine of strict compliance. *Id.* at 21a. Nonetheless, the court found "ample authority" in the decisions of state courts and federal agency boards of contract appeals for holding that "the government should not be permitted to direct the replacement of work in situations where the cost of correction is economically wasteful and the work is adequate for its intended purpose." *Id.* at 19a.[6] Applying that principle here,

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[6] The court of appeals also relied on cases involving private parties, including "the seminal case" (App., *infra*, 20a) of *Jacob & Youngs, Inc.*, v. *Kent*, 129 N.E. 889 (N.Y. 1921). That case involved a contractor who, when building a country home for another party, used plumbing pipe of Cohoes rather than Reading manufacture, in violation of a contract term. It was undisputed that Cohoes pipe was identical to Reading pipe in all respects except for the place of manufacture, and there was no evidence that the use of the wrong type of pipe affected the value of the house. On the other hand, the cost of replacing the pipe would have been enormous, as it would have entailed partially demolishing the house. Under those circumstances, the New York Court of Appeals, per then-Judge Cardozo, held that the owner was only entitled

the panel held that "the Corps' requirement that the waterstop be torn out and replaced resulted in economic waste," and was therefore arbitrary and capricious. *Id.* at 22a. It concluded that Granite was entitled to an "equitable adjustment for the cost of removing and replacing the [defective] waterstop." *Ibid.*[7]

5. The government's petition for rehearing was denied on May 29, 1992, App., *infra*, 105a. The government's suggestion for rehearing en banc was subsequently declined, *id.* at 106a.

REASONS FOR GRANTING THE PETITION

The court of appeals incorrectly decided an issue of great importance to the administration of government contracts. The Federal Circuit construed a clause that is included in virtually all government construction contracts to import the common law doctrine of "economic waste." That doctrine, however, squarely conflicts with the language of the clause, which grants the government an unqualified right to insist upon strict compliance. The Federal Circuit's creation of an "economic waste" exception to the rule of strict compliance would substantially undermine the government's ability to administer construction contracts, on which hundreds of billions of dollars of taxpayer money are spent each year. Because

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to the diminution in value caused by the breach; the owner could not recover the cost of replacing the pipe.

[7] Although the court of appeals held that it was "economically wasteful" to require replacement of the defective waterstop, the court did not determine the actual cost of replacement, an issue of dispute between the parties. There is no dispute, however, that the cost is substantial. See note 4, *supra*.

the Federal Circuit is the exclusive forum for appellate review of nearly all government contract disputes, this Court's review is necessary to correct the error.

1. a. This case turns upon the proper interpretation of a clause that has been included in government construction contracts for the past 30 years. Clause GP-10(b) ("Inspection and Acceptance") of the contract between the Corps and Granite provided:

> The contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price.

App., *infra*, 29a. The inclusion of this clause in government construction contracts has been required by regulation since at least 1962.[8] Currently, the

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[8] Clause GP-10(b) is one of a set of "general provisions" issued by the Army Corps of Engineers and included in all construction contracts. See Compl. Exh. Y. At the time that the Corps' contract with Granite was executed, inclusion of clause GP-10(b) was required by 41 C.F.R. 1-16.402(a), 1-16.901-23A(c) (1976), and Armed Services Procurement Regulation 7-602.11 (codified at 32 C.F.R. Pt. 1 (1977)), reproduced at App., *infra*, 109a-114a. The clause was originally prescribed in a 1962 amendment to the Armed Services Procurement Regulations, 27 Fed. Reg. 1685, 1710 (1962) (codified at 32 C.F.R. 7.602-11(b) (Supp. 1964)), and was subsequently included in a comprehensive revision of the Federal Procurement Regulations System that had been established in 1959. See 29 Fed. Reg. 10,102, 10,317 (1964) (codified at 41 C.F.R. 1-16.901-23A(c) (1965)). The clause was carried forward, substantially unchanged, into the FAR, which took effect on April 1, 1984, and generally governs

FAR requires that a substantially identical clause be included in all fixed-price construction contracts that exceed a $25,000 small-purchase limitation. 48 C.F.R. 46.312, 52.246-12(f); 48 C.F.R. Pt. 13.[9]

The plain language of clause GP-10(b) is controlling here. It provides that the contractor "shall" replace "any" nonconforming material or workmanship "without charge" to the government "unless in the public interest the Government consents to accepts such [nonconforming work] with an appropriate adjustment in contract price." Granite conceded that the waterstop initially embedded did not conform to contract specifications. App., *infra*, 10a, 17a. Under clause GP-10(b), the Corps was accordingly entitled to require Granite to replace the waterstop without charge.

Here, the Federal Circuit recognized that "[u]nder clause GP-10(b) of the contract, the contractor was required to replace without charge, any material which did not conform to the contract requirements." App., *infra*, 15a. The court nonetheless held that under the public interest provision in clause GP-10(b), "the government was required to consider the public interest when deciding whether to replace the non-

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procurement by both the Armed Services and civilian agencies. See 48 Fed. Reg. 42,103, 42,598 (1984).

[9] The current version of the clause provides (48 C.F.R. 52.246-12(f)):

> The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

conforming waterstop," *id.* at 15a, and that Granite could not be held liable for the cost of correction because the government breached that duty.

The language of the clause, however, simply does not say that. Clause GP-10(b) does not make reference to any duty on the part of the government to accept nonconforming work. The clause does not say that the government "shall" accept nonconforming work if it is in the public interest to do so. It provides that the government may "consent" to accept nonconforming work "in the public interest," but nothing in the clause precludes the government from withholding its consent. The permissive wording of the clause weighs strongly against construing it to restrict the government's right to reject nonconforming work.

Moreover, while clause GP-10 entitles the government to an "appropriate adjustment in contract price" in the event the government accepts nonconforming work, it does not give the contractor a right to additional compensation for correcting defective work. Other standard provisions in the contract make clear that the contractor may obtain additional compensation only when the government changes the contract requirements.[10] No such change occurred here.

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[10] Clause GP-3 (Changes) authorizes the contracting officer to "make any change in the work within the general scope of the contract," including "in the specifications * * * [and] in the method or manner of performance of the work." See Compl. Exh. Y; see also 48 C.F.R. 43.205(d), 52.243-4 (substantially similar clause required in construction contracts under the FAR). If such a change increases the cost of performance, the contractor may seek an "equitable adjustment" to recover that cost. Clause GP-3 was one of the provisions upon which Granite relied in this case when

b. Clause GP-10(b) embodies the "fundamental rule" of government contracts that "the Government is entitled to enforce strict compliance with its specifications." J. Cibinic & R. Nash, *Administration of Government Contracts* 571 (2d ed. 1985). As the Claims Court recognized, under the strict compliance rule "[i]t is not within a contractor's province to decide what materials are equally satisfactory and substitute its judgment for that of the government." App., *infra*, 46a (quoting *H.L.C. & Associates Constr. Co.* v. *United States*, 367 F.2d 586, 598 (Ct. Cl. 1966)). The Federal Circuit has similarly recog-

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it sought additional compensation for replacing the defective waterstop. As the Contracting Officer explained in rejecting that claim, "[Granite's] performance standards were not raised by the Government's directive to [Granite] to remove and replace the defective waterstop. [Granite was] only directed to do what should have been done correctly in the first instance." Decision at 7, Compl. Exh. B. In addition to clause GP-3, which applies when the government proposes a change in the contract requirements, clause GP-66 ("Value Engineering Incentive") allows the contractor to propose a change in the contract if the change would "reduce[] the contract price without impairing essential function or characteristics." See Compl. Exh. Y; see also 48 C.F.R. 48.202, 52.248-3 (similar clause required in construction contracts under the FAR). Under clause GP-66, the government has an unreviewable right to accept or reject the proposal. See *DK's Precision Machining & Mfg.*, 90-2 B.C.A. (CCH) ¶ 22,830 at 114,636, 114,640 (1990); *NI Indus., Inc.*, 87-1 B.C.A. ¶ 19,620, at 99,248, 99,260 (1987). If the government accepts the proposal, the government and the contractor share the cost-saving. Given that the government's decision under clause GP-66 to accept or reject contractor proposals that do not compromise contract requirements is unreviewable, it makes no sense to conclude, as the Federal Circuit did, that the government's rejection of nonconforming work under clause GP-10 is subject to judicial review.

nized that the government "is entitled to receive that for which it contracted and has the right to accept only goods that conform to the specification." *Cascade Pac. Int'l* v. *United States*, 773 F.2d 287, 291 (1985).

By the same token, the Federal Circuit has never recognized an "economic waste" exception to the strict compliance rule, as the panel here acknowledged. See App., *infra*, 21a. Moreover, as the Claims court observed, such an exception "generally has not been adopted or followed by the Claims Court or its predecessor the Court of Claims." *Id.* at 48a n.7. Indeed, in the only Court of Claims decision squarely addressing the issue, the Court of Claims held that the doctrine of economic waste should not apply in government contract disputes. *H.L.C. & Associates Constr. Co.* v. *United States*, 367 F.2d 586, 598 (1966). In other cases, the Court of Claims has rejected arguments by contractors that the government should have accepted nonconforming goods or services because the goods or services were adequate for their intended purpose. See *Troup Bros., Inc.* v. *United States*, 643 F.2d 719, 722-724 (Ct. Cl. 1980); *S.S. Silberblatt, Inc.* v. *United States*, 433 F.2d 1314, 1323 (Ct. Cl. 1970); *Farwell Co.* v. *United States*, 148 F. Supp. 947, 950 (Ct. Cl. 1957).[11]

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[11] Some agency boards of contract appeals have stated that an economic waste exception to the strict compliance rule should apply in government contract disputes, but a contractor could not have relied on such an exception prior to the Federal Circuit's decision in this case. See 6 R. Nash & J. Cibinic, Nash & Cibinic Report ¶ 28, at 68 (May 1992) (Federal Circuit's decision in this case "is the first clear adoption of the [economic waste] concept as a precedential rule for Government contract cases"). The boards have referred to an economic waste exception in *Hunter Ditch Lining*, 91-2 B.C.A. (CCH) ¶ 23,673, at 118,558, 118,565 (1991); *Toombs & Co.*, 91-1

In sum, the standard language of government construction contracts, as well as the case law, have established a fundamental rule of strict compliance. There is no basis for the significant exception to that rule adopted by the Federal Circuit in this case.

2. The Federal Circuit ignored the language of the contract, and case law applying the strict compliance rule, in favor of decisions involving private parties that have applied the common law doctrine of "economic waste." To be sure, federal courts have limited power to craft rules of federal common law in an area, such as government procurement, governed exclusively by federal law. See *Boyle* v. *United Technologies Corp.*, 487 U.S. 500, 504 (1988). Federal common law must give way, however, in the face of federal statutes or regulations on the same subject. See *City of Milwaukee* v. *Illinois*, 451 U.S.

B.C.A. (CCH) ¶ 23,403, at 117,418, 117,432-117,433 (1990); *Pacific Western Constr., Inc.*, 86-2 B.C.A. (CCH) ¶ 18,816, at 94,815, 94,824 (1985); *Eller Constr., Inc.*, 83-2 B.C.A. (CCH) ¶ 16,560, at 82,361, 82,367-82,369 (1983); *Valley Asphalt Corp.*, 74-2 B.C.A. (CCH) ¶ 10,680, at 50,770-50,771 (1974). In only two cases, however, *Toombs* and *Valley Asphalt*, has a board actually applied the exception to hold that the government was not entitled to insist upon strict compliance. Cf. *Arnold M. Diamond, Inc.*, 73-2 B.C.A. (CCH) ¶ 10,359, at 48,920, 48,925 (1973) (holding that contractor was entitled to compensation for replacement of portion of concrete pier, without discussing economic waste). Moreover, in other cases, the boards have required contractors to correct defective workmanship at significant cost despite claims of economic waste or without discussing economic waste. See, *e.g.*, *Joseph S. Terrell, Inc.*, 87-2 B.C.A. (CCH) ¶ 19,684 (1987); see generally Cibinic & Nash, *supra*, at 574-575 (citing cases). Overall, the boards have been inconsistent in recognizing an economic waste exception.

304, 314 (1981); cf. *Priebe & Sons, Inc.* v. *United States*, 332 U.S. 407, 411 (1947). That is the case here.

The specifications in the contract "state[d] * * * the Government's actual minimum needs." 48 C.F.R. 10.001 (defining "Specification"). As we explained in Point 1, the government was expressly entitled to insist on compliance with those specifications by virtue of provisions the inclusion of which is required by regulation. Those regulations, in turn, were promulgated pursuant to delegations by Congress to the Executive Branch of broad authority to promulgate procurement policies and procedures with the force and effect of law. See Federal Property and Administrative Services Act of 1949, Tit. II, § 201(a), 205, 63 Stat. 383-384, 389 (current version codified at 40 U.S.C. 481(a), 486); Office of Federal Procurement Policy Act Amendments of 1983, Pub. L. No. 98-191, § 6, 97 Stat. 1326-1329 (current version codified at 41 U.S.C. 405); see also *Chrysler Corp.* v. *Brown*, 441 U.S. 281, 308 (1979). Because the regulations grant the government an unqualified right to require the contractor to correct nonconforming work, the courts cannot rely on federal common law to qualify that right.

In reaching the contrary conclusion, the Federal Circuit construed the provision in clause GP-10(b) permitting the government to "consent" to accept nonconforming work "in the public interest" to incorporate the common law doctrine of economic waste. The express terms of the clause leave no room, however, for the conclusion that the government assumed a judicially enforceable duty to reevaluate its contract specifications when a contractor has failed to perform in accordance with the specifications. The clause

makes clear that the agency has *authority* to waive compliance "in the public interest" but imposes no duty to do so. Indeed, neither the public interest provision nor any other contract provision, statute, or regulation provides any "meaningful standard against which to judge the [government's] exercise of discretion" in deciding whether to accept nonconforming work. *Heckler* v. *Chaney*, 470 U.S. 821, 830 (1985).[12] Thus, the decision whether to accept nonconforming work is committed to agency discretion by law. See *ibid.*; see also *Webster* v. *Doe*, 486 U.S. 592, 599-601 (1988); *Citizens to Preserve Overton Park, Inc.* v. *Volpe*, 401 U.S. 402, 410 (1971); see also *Boyle*, 487 U.S. at 511 (design of specifications for military procurement "often involves not merely engineering analysis but judgment as to the balancing of many technical, military, and even social considerations" that Congress did not intend be "second-guess[ed]" by courts).[13]

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[12] In particular, there was no basis for the Federal Circuit's conclusion that the "public interest" provision in the acceptance clause incorporated the common law doctrine of "economic waste." Under the economic waste doctrine, a court balances the cost imposed on a contractor by requiring correction of nonconforming work against the benefit of complete performance to the other party. That balancing approach is not appropriate in the context of government procurement, because adherence to the strict compliance rule benefits the procurement process—and thereby furthers the public interest—in ways that cannot be quantified, as we explain in Point 3, *infra*.

[13] In addition, any duty the government may have under clause GP-10(b) to accept nonconforming work "in the public interest" plainly runs to the public, not to the contractor. Cf. *Block* v. *Community Nutrition Inst.*, 467 U.S. 340, 346-

3. Even if the Federal Circuit had the authority to adopt a common law rule of economic waste—which it did not—such a rule should have been rejected. The adverse consequences of such a rule on contract administration render it wholly inappropriate in the realm of government contracts and demonstrate the need for review by this Court.

a. The strict compliance rule serves "to ensure that the performance will satisfy the Government's needs, that public funds will not be improperly expended and that the integrity of the public bidding system will not be compromised." J. Cibinic & R. Nash, *supra*, at 571. The integrity of the public bidding system is particularly threatened by the adoption of an "economic waste" exception to the strict compliance rule.

The strict compliance rule preserves the integrity of the public bidding system by making it clear in advance that contractors will be required to correct nonconforming work. That prospect discourages contractors from submitting bids based on less expensive, nonconforming material. See *Farwell Co.* v. *United States*, 148 F. Supp. 947, 950 (Ct. Cl. 1957). Under the strict compliance rule, the cost of correcting nonconforming work reliably falls on the contractor. The contractor therefore has an incentive to submit bids based on material and workmanship that will satisfy the contract requirements.

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347 (1984). Contractors are not within the "zone of interest" protected by the provision, and therefore they may not seek judicial enforcement of it. See generally *Clarke* v. *Securities Indus. Ass'n*, 479 U.S. 388, 399-400 (1987); *Association of Data Processing Serv. Organizations, Inc.* v. *Camp*, 397 U.S. 150, 154-156 (1970).

That incentive would all but vanish if an economic waste exception to the strict compliance rule were adopted. Such an exception would permit a contractor in certain circumstances to shift the cost of correcting nonconforming work to the government. As a result, a contractor could rationally decide to submit a bid based on less expensive material or workmanship that did not meet contract requirements if he believed that he could later convince a court that the nonconforming work was adequate for its intended purpose and that correction would be unnecessarily expensive. Such a contractor, moreover, would have an incentive to prevent the government from discovering the nonconformity for as long as possible, in order to maximize the cost of correction. In this case, for example, Granite's repeated representations that all of the waterstop came from the approved batch prevented the Corps from discovering that the waterstop was defective until 10% of it had already been embedded. The delay thus worked to Granite's advantage, since it increased the cost of correction, thereby increasing the likelihood that correction would be deemed "economically wasteful."

b. By creating an exception to the strict compliance rule, the Federal Circuit's decision will also breed pointless litigation. One purpose of the strict compliance rule—of enormous fiscal importance to the United States—is that it minimizes litigation. In many cases, such as this one, contract specifications are objective, consisting of numerical standards for tensile strength and other physical properties. Noncompliance with the specifications can therefore be definitely determined through scientific testing, as occurred here (see note 3, *supra*). When the legal consequence of noncompliance is likewise definite—

i.e., when the government has an unqualified right to insist on strict compliance—there is nothing to litigate about. In contrast, the prospect that a court may later determine that it was "economically wasteful" to require correction of nonconforming work gives contractors a significant incentive to litigate even when, as here, the fact of noncompliance is undisputed.[14]

c. The "economic waste" doctrine also undermines the government's development of uniform specifications applicable to large numbers of public projects. This case illustrates the point. The specifications for waterstop set forth in the Corps' contract with Granite were not developed specifically for the Aberdeen lock and dam. See App., *infra*, 63a-64a, 78a. Rather, those specifications were developed by the Corps for use at all waterway projects. C.A. App. 87, 101, 117. We are advised that the Corps first undertook development of uniform standards for waterstop in the 1950's, in response to several instances in which the water sealant used in then-existing waterway projects failed. The standards have subsequently been periodically revised in light of developments in testing methods and materials science.

Waterstop is only one of many "off the shelf" items used in construction projects for which the Corps has developed uniform specifications. The ad-

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[14] This case illustrates that litigation under the "economic waste" doctrine will often partake of Monday-morning quarterbacking. In determining that the defective waterstop was adequate for its intended purpose, the Federal Circuit relied on the report of a "waterstop expert" that was developed solely for the hearing before the Board of Contract Appeals and was not available to the Corps at the time that Granite submitted its proposals for repairing the defective waterstop. See App., *infra*, 16a-19a.

vantages of uniformity are obvious. It allows the supplier of a material to realize economies of scales that would not exist if the material were custom-made for each project. It saves the Corps from having to reinvent the wheel every time it undertakes a new waterway project.[15]

The inevitable result of having a uniform set of specifications is that in some cases the specifications will be more stringent than they might be if they had been designed on a project-by-project basis. Contrary to the court of appeals' conclusion (App., *infra*, 16a), however, it is not irrational to adhere to the uniform specifications in such cases. Indeed, it is eminently sensible for the Corps to refuse to deviate from its uniform standards every time a contractor fails to meet those standards and then contends that the standards are too high. Disputes over the adequacy of nonconforming work would often delay construction projects and increase their cost. Yet there would never be a corresponding increase in the safety of the project. On the contrary, at best the government would obtain material or workmanship that did not meet the expected standards but was good enough.

4. a. The Federal Circuit's ruling has tremendous prospective significance, given the large number and value of Government contracts that incorporate clauses requiring strict compliance similar to the provision at issue here. In fiscal year 1992, for example, the Corps of Engineers awarded more than

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[15] Uniformity of standards also makes it easier to obtain substitute material when the need arises. In this case, for example, the Corps readily obtained waterstop that met the contract specifications from a different manufacturer than the original supplier. App., *infra*, 77a.

2600 construction contracts with a total award value of $3.2 billion. In the last five years, the Corps has awarded approximately 17,000 such contracts with a total award value of more than $27.8 billion. The Corps, moreover, is not the only government agency that spends massive amounts of federal funds on construction projects.[16] As we have explained (pp. 10-11 & n.8, *supra*), all fixed-price government construction contracts that exceed a small-purchase limitation are required under the FAR to contain an acceptance clause that includes a "public interest" provision substantially identical to the provision on which the Federal Circuit relied in adopting an "economic waste" exception to the strict compliance rule.

b. It is unlikely that other courts of appeals will have an opportunity to review the question presented here. Subject to some limited exceptions, the Contract Disputes Act of 1978 governs all disputes arising under "any express or implied [procurement] contract * * * entered into by an executive agency," 41 U.S.C. 602(a). Decisions rendered under the CDA's administrative review process are subject to judicial review exclusively in the Federal Circuit.[17] The Fed-

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[16] The Department of Transportation, for example, advises us that it awarded 635 construction contracts in fiscal year 1992 totalling more than $205 billion. The Department's five-year totals are 3387 construction contracts worth more than $1.3 trillion.

[17] All disputes governed by the Act must initially be submitted to the contracting officer (41 U.S.C. 605(a)), whose decision is "not subject to review by any forum, tribunal, or Government agency," except as provided in the Act (41 U.S.C. 605(b)). The contracting officer's decision may be appealed directly to the Claims Court, which has exclusive

eral Circuit is thus the only court of appeals that is likely to address the question of whether there is a "economic waste" exception to the strict compliance rule.

In similar circumstances, this Court has recognized the need for plenary review of Federal Circuit decisions that have great fiscal importance. See, *e.g.*, *United States* v. *Goodyear Tire & Rubber Co.*, 493 U.S. 132, 138 (1989); *United States* v. *American Bar Endowment*, 477 U.S. 105, 109 (1986); see also 91-1421 Pet. at 9 in *United States* v. *Hill*, cert. granted, 112 S. Ct. 1758-1759 (1992). Plenary review is warranted in this case.

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jurisdiction over such appeals (41 U.S.C. 609(a)(1); 28 U.S.C. 1346(a)(2), 1491(a)(2)), and thereafter to the Federal Circuit, which has exclusive jurisdiction over final decisions of the Claims Court (28 U.S.C. 1295(a)(3)). Alternatively, the contracting officer's decision may be appealed to an agency board of contract appeals (41 U.S.C. 607(g)(1)), the decision of which is subject to judicial review exclusively in the Federal Circuit (28 U.S.C. 1295(a)(10)).

CONCLUSION

The petition for a writ of certiorari should be granted.

Respectfully submitted.

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APPENDIX A

UNITED STATES COURT OF APPEALS
FEDERAL CIRCUIT

No. 91-5107

GRANITE CONSTRUCTION COMPANY,
PLAINTIFF-APPELLANT

v.

THE UNITED STATES,
DEFENDANT-APPELLEE

April 1, 1992

Rehearing Denied May 29, 1992

Before NEWMAN, Circuit Judge, COWEN, Senior Circuit Judge, and LOURIE, Circuit Judge.

COWEN, Senior Circuit Judge.

In this Wunderlich Act case, Granite Construction Company (Granite) appeals from the decision of the United States Claims Court, 22 Cl.Ct. 831, which affirmed the decision of the Corps of Engineers Board of Contract Appeals (Board), ENG BCA No. 4496, 89-1 B.C.A. (CCH) ¶ 21,447, 1988 WL 143116. The

Board denied Granite's claim for recovery of costs incurred in the removal and replacement of waterstop in a lock and dam construction project. For the reasons to be set forth, we reverse and remand.

BACKGROUND

On October 26, 1976, Granite entered into a $36,263,924 contract with the U.S. Army Corps of Engineers (Corps) for the construction of a lock and dam near Aberdeen, Mississippi.[1] The dam and lock walls consist of a series of concrete monoliths that are 60 feet high, 42 feet long, and 30 feet wide. The contract required Granite to embed polyvinylchloride (PVC) waterstop in the vertical joints between each monolith in order to prevent water leakage.

After approximately 10 percent of the waterstop was permanently embedded in the monoliths, the Corps tested the waterstop, determined that it did not meet the contract requirements, and required Granite to remove and replace virtually all of the installed waterstop.

After removing and replacing the waterstop, Granite sued its suppliers Alpha Extruders (Alpha), Vimco Concrete Accessories (Vimco), Saf-T-Grip Specialties (STG), and Stafford in a United States

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[1] The facts set forth in this opinion consist of findings made by the Board, facts which both parties have agreed upon, or facts which the court has found based upon undisputed evidence. *See Commissioner v. Gordon*, 391 U.S. 83, 95 n. 8, 88 S.Ct. 1517, 1524 n. 8, 20 L.Ed.2d 448 (1968); *Ordnance Research, Inc. v. United States*, 609 F.2d 462, 465, 221 Ct.Cl. 641 (1979); *Koppers Co. v. United States*, 405 F.2d 554, 559, 186 Ct.Cl. 142 (1968). *See also King v. Commissioner*, 458 F.2d 245, 249 (6th Cir. 1972).

district court and recovered $400,000 from Vimco and Stafford by settlement. In addition, Granite obtained a default judgment against Saf-T-Grip and Alpha for $894,750. Granite assigned its rights against the latter two suppliers to insurers, and agreed to pursue a claim against the Corps. Granite also agreed to furnish one-half of any recovery to Vimco and Stafford or their insurers.

Granite filed a $3.8 million claim with the contracting officer. On appeal, the Board conducted a trial on liability in May of 1983. On December 19, 1988, the Board issued a split decision denying Granite's claim in its entirety.[2] The Board majority determined that the contract required Granite to inspect and test the waterstop to ensure that it met contract specifications. The Board further determined that the government had a right to insist upon strict compliance with the contract specifications and to require the complete removal of the embedded STG waterstop. One judge concurred and dissented in part, concluding that Granite was entitled to delay damages for the Corps' failure to periodically test the waterstop. The dissenting judge also found that the Corps arbitrarily and capriciously failed to evaluate

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[2] The reporter's transcript shows that Administrative Judge McFadden conducted the hearing. During oral argument before the Claims Court, counsel for Granite informed the court that Judge McFadden retired shortly after the hearing and that Administrative Judge Jockisch joined the Board in 1988. Judge McFadden did not participate in the Board's decision, which was written by Judge Jockisch. Administrative Judge Solibakke, Chairman of the Board, concurred. Administrative Judge Steele filed an opinion concurring in part and dissenting in part.

the adequacy of the waterstop for the Aberdeen project.

Pursuant to the Wunderlich Act, 41 U.S.C. §§ 321-22 (1978), Granite sought judicial review of the Board's decision with the United States Claims Court. Upon review of the Board's decision in accordance with the standards provided in the Wunderlich Act, the Claims Court agreed with the Board and granted the government's motion for summary judgment.

DISCUSSION

I.

The Standard of Review

Because Granite entered into the Aberdeen lock and dam contract prior to the effective date of the Contract Disputes Act of 1978 (CDA), 41 U.S.C. § 601 *et seq.* (1988), and did not elect CDA coverage, the disputes provisions of the Wunderlich Act govern this appeal. *Essex Electro Eng'rs, Inc. v. United States*, 702 F.2d 998, 1002-03 (Fed.Cir.1983). The Wunderlich Act provides:

> § 321. *Limitation on pleading contract provisions relating to finality; standards of review*
>
> No provision of any contract entered into by the United States, relating to the finality or conclusiveness of any decision of the head of any department or agency or his duly authorized representative or board in a dispute involving a question arising under such contract, shall be pleaded in any suit now filed or to be filed as limited [sic] judicial review of any such decision to cases where fraud by such official or his said

> representative or board is alleged: *Providea, however*, That any decision shall be final and conclusive unless the same is fradulent [sic] or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith, or is not supported by substantial evidence.
>
> § 322. *Contract provisions making decisions final on questions of law*
>
> No Government contract shall contain a provision making final on a question of law the decision of any administrative official, representative, or board.

Board decisions under the Wunderlich Act are subject to two stages of appellate review, first by the Claims Court and then by this court. The Claims Court reviews the legal conclusions of the board *de novo* and factual findings under the substantial evidence test. Although Granite appeals from the decision of the Claims Court, we essentially review the underlying decision of the board under the same standards applied by that court. *Cf. Matsushita Electric Indus. Co. v. United States*, 929 F.2d 1577, 1578 (Fed.Cir.1991); *American Permac, Inc. v. United States*, 831 F.2d 269, 273 (Fed.Cir.1987), *cert. dismissed*, 485 U.S. 901, 108 S. Ct. 1067, 99 L.Ed.2d 229 (1988); *See also Vista Scientific Corp. v. United States*, 808 F.2d 50, 52 (Fed.Cir.1986).

II.

The Waterstop Testing Issue

A.

The first issue presented is whether the government is liable for the failure to periodically test the

waterstop. Granite argues that the Corps was required under the inspection provisions of the contract to perform a specified number of tests on the waterstop to determine whether the material complied with the specifications. Granite contends that the government's failure to test the waterstop before it was permanently embedded in the structure caused the contractor to incur costs exceeding $3.8 million. Had the government conducted periodic testing of the waterstop in a timely fashion, Granite argues, the nonconforming waterstop would have been discovered prior to installation and remedied by Granite at a much lower cost.

B.

The provisions of the contract pertaining to the inspection and testing of the waterstop are set forth in the decisions of the Board and the Claims Court, to which the reader is referred for a complete statement of these terms. It will suffice for our purpose to paraphrase the pertinent sections of the specifications.

Paragraph 14.3.3 of the technical specifications, entitled "Testing," provided that the contractor should submit samples of the waterstop to the Corps, but that all testing of the waterstops would be performed by and at the expense of the government, which had the right to reject any sample which failed to meet the requirements of CRD-C 572-74. This contract provision, in turn, contained detailed requirements for testing samples of the finished waterstop, including tensile strength, ultimate elongation, low temperature brittleness, stiffness in flexure, and accelerated extraction, and stated that the waterstop may be rejected if it failed to meet any of the requirements

of the specification. Paragraph 14.3.3.1 specified that each sample to be tested by the government should be at least 12 inches long and taken from every 200 feet of waterstop supplied by Granite.

General Provision clause GP-10(d) stated that all inspection and tests by the government should be performed in a manner that would not unnecessarily delay the work. Clause GP-32 required Granite to maintain a general inspection system to assure compliance with the specifications.

Under the heading of Special Provisions, clause SP-38 required the contractor to maintain an effective quality control system in accordance with GP-32 and to perform inspection and testing of all items of work, including the work of subcontractors, to monitor compliance with the specifications and drawings. This clause of the contract also provided: "[w]here the technical provisions of the contract provide for Government quality control or assurance by inspections or testing, it shall not relieve the contractor from the responsibility of doing such testing or inspection as is necessary to assure himself or the Government that the specifications are being met." Thus, the contract contained a technical provision which held the Corps responsible for testing the waterstop and a special provision which stated that the technical provision did not relieve Granite from its duty to supply waterstop which met the contract specifications.

C.

On March 4, 1977, Granite ordered 7,100 linear feet of PVC waterstop from Vimco. Vimco purchased the waterstop from STG, which obtained the material from Alpha. The Corps requested four samples of

waterstop for testing by the Waterway Experiment Station. On July 18, 1977, the Corps informed Granite that the samples met the requirements of CRD-C 572-74. Subsequently, STG requested permission to supply a different color waterstop. After Granite transmitted this request, the Corps became concerned and sought assurance that the material to be shipped was the same as the original samples. On September 16, 1977, STG certified that the waterstop material would be from the same lot and compound as the originally approved samples. The request for a change in color was eventually withdrawn.

Granite received the first shipment of STG waterstop in October 1977. Mr. Baker, a government inspector, investigated the contractor's storage area in November 1977. He "looked over" the STG waterstop but did not perform a "quality check" of the material. On November 19, 1977, a Granite quality control engineer certified that all material present on the job site met applicable contract specifications and requirements.

On April 3, 1978, Granite began embedding the waterstop. The Corps conducted a visual inspection of the project and noticed dimensional differences in the waterstop material. Upon inquiry, STG certified on April 27, 1978, that the waterstop was "manufactured at one time from one lot and shipped complete to the above project."

In May 1978, Granite realized that STG had not shipped all 7,100 linear feet of waterstop to the job site. Granite contacted the subcontractor, who sent a second shipment around June 1, 1978. STG certified that the second shipment was from the same lot as the first shipment. The Corps noticed that the material from the second shipment looked different

than the first. Granite showed the Corps the STG certification, but did not transmit the certificate to the government until almost a year later because the contractor became convinced that the waterstop in the first and second shipments was not from the same lot.

In early June, the Corps decided to test the second shipment to determine whether the material complied with the contract specifications. The Corps never informed Granite that it did not perform further testing of the waterstop after the original lot test. Up to this time, Granite apparently thought the Corps had been periodically testing the material from the first shipment. Except for samples of the waterstop taken from the original lot, Granite did not submit any samples of the waterstop to the Corps for testing. Four of the five samples taken by the Corps from the second shipment failed to meet the numerical test values for ultimate elongation and tensile strength.

On June 22, 1978, the Corps informed Granite that the second shipment of waterstop was rejected. The Corps also directed Granite to shut down its concrete operations, which were on the critical path. By this date, Granite had already embedded 800 linear feet of waterstop from the first and second shipments in the concrete monoliths. On June 23, Granite tendered samples from the first shipment to the Corps. The Corps notified the contractor on June 26 that the material from the first shipment did not comply with the specifications. The results indicated that the waterstop tested 13 percent below the tensile strength and ultimate elongation requirements set forth in CRD-C 572-74 and did not meet test values for low temperature brittleness.

On June 26, 1978, the Corps rejected all the embedded waterstop and advised Granite that it would accept nothing less than waterstop which complied with the specifications of the contract.

D.

The essential facts regarding the government's liability for the failure to periodically test the waterstop are undisputed. Therefore, the issue involves questions of contract interpretation which the court decides *de novo*. *Hol-Gar Mfg. Corp. v. United States*, 351 F.2d 972, 974, 169 Ct.Cl. 384 (1965).

The right of the government to inspect work generally does not relieve the contractor of the responsibility to perform in accordance with the contract specifications. *Kenneth Reed Constr. Corp. v. United States*, 475 F.2d 583, 590, 201 Ct.Cl. 282 (1973). Granite concedes that the STG waterstop did not meet the contract requirements. However, Granite argues that paragraph 14.3.3 of the technical specifications and CRD-C 572-74 shifted primary responsibility to the Corps for ensuring that the waterstop material complied with the specifications.

It is well settled that a contract must be interpreted when possible as a whole in a manner which gives reasonable meaning to all its parts and avoids conflict of surplusage of its provisions. *B.D. Click Co. v. United States*, 614 F.2d 748, 753, 222 Ct.Cl. 290 (1980). When this well-established rule is applied to the specifications and the uncontroverted facts, we conclude that the contract provisions placed the responsibility for testing the waterstop on the government and the ultimate burden on the contractor to provide the government with conforming waterstop.

Both parties understood that the Corps was responsible for testing the waterstop. On November 1, 1977, the Corps Area Engineer sent the Resident Engineer a memorandum reading in pertinent part:

> 2. Quality assurance testing by the Government falls into two categories:
>
> a) Those tests that are *solely* the responsibility of the Government, and
>
> b) Those tests that are *required* to ensure the effectiveness of the Contractor's quality control program.
>
> 3. Those materials that are to be tested by the Government, and that are not part of the Contractor's quality control program are . . .
>
> * * * * *
>
> c) Waterstops. This material is tested by WES in accordance with procedures outlined in the specifications, CRD-C-513 and CRD-C-572 [emphasis added].

In accordance with this interpretation, the Corps requested and Granite initially furnished samples of the waterstop for inspection and testing by the government. This course of conduct reflects the parties' understanding that the government's responsibility to test the waterstop was separate from Granite's obligation under SP-38 to provide and maintain an effective quality control system. *See Julius Goldman's Egg City v. United States*, 697 F.2d 1051, 1058 (Fed.Cir.), *cert. denied*, 464 U.S. 814, 104 S.Ct. 68, 78 L.Ed.2d 83 (1983).

Although the contract obligated the government to test the waterstop, Special Provision 38 prevented

the contractor from disclaiming liability for installing nonconforming waterstop material. The lack of government inspection does not relieve the contractor of the burden of providing conforming materials under the contract. *Kaminer Constr. Corp. v. United States*, 488 F.2d 980, 986-87, 203 Ct.Cl. 182 (1973). Nor can the contractor properly rely on government inspection for correction of errors. *Cf. Kenneth Reed Constr.*, 475 F.2d at 590. Therefore, Granite is not entitled to compensation for the direct costs of removal and replacement of the STG waterstop because of the government's failure to timely inspect the waterstop.

On the other hand, clause SP-38 should not be construed to relieve the Corps from all liability for failing to perform its contractually mandated testing duties. To decide otherwise would render meaningless technical provisions 14.3.3 and CRD-C 572-74, which required the Corps to test all waterstop, and clause GP-10, which obligated the government to inspect without unreasonably delaying the work. *Cf. Thompson Ramo Wooldridge Inc. v. United States*, 361 F.2d 222, 228-29, 175 Ct.Cl. 527 (1966). Rather, the Corps remained responsible under the technical provisions, when these are read in conjunction with clause GP-10, for performance delays attributable to an unreasonable failure to conduct periodic testing of the waterstop. *See Martell Constr. Co.*, ASBCA No. 23679, 80-1 B.C.A. (CCH) ¶ 14,429 at 71,137, 1980 WL 2841 (1980). In reaching that conclusion, we cannot overlook the fact that Granite affirmatively represented to the government that the waterstop conformed to the specifications. The Board found that the certifications Granite received from suppliers and furnished to the government misled the Corps

into believing that all waterstop used in the project was from the first approved batch of material. The Corps relied on these certifications and did not perform further tests of the waterstop until the government became aware that the second shipment of waterstop material differed in appearance from the initial samples. Upon discovery of a potential nonconformity, the Corps promptly tested the waterstop and notified Granite of the results. These findings are supported by substantial evidence. In light of Granite's repeated assurances, we cannot say that government acted unreasonably in foregoing further testing of the waterstop. Consequently, we conclude that the government should not be held accountable under the technical specifications for performance delays experienced by Granite on account of the untimely testing of the waterstop by the Corps.

III.

The Strict Compliance Issue

A.

After its concrete work had been shut down by order of the Corps, Granite proposed several remedial methods which did not require removal of the waterstop. Granite first submitted a "cut and splice" method. This method involved splicing Vinylex waterstop, which had been approved by the Corps for other projects, onto the STG waterstop already embedded in the concrete. The proposal was rejected on the ground that it did not comply with the contract specifications. Thereupon, Granite requested the Corps to provide it with design criteria or calculations for the waterstop, so that Granite could hire a consultant to determine

whether the STG waterstop was adequate for its intended purpose. However, the Corps declined on the ground that this was not necessary, because the government had determined that it woluld accept nothing less than the complete removal and replacement of the STG waterstop.

Granite next proposed a "rerouting method," whereby it would embed additional conforming waterstop into the concrete. The Corps rejected this and all other remedial proposals by Granite, because the STG waterstop did not meet the contract specifications.

On June 28, 1978, the Corps advised Granite in writing that total removal and replacement of the STG waterstop would be required. In compliance with this directive, Granite began removing and replacing the STG waterstop in accordance with the method approved by the Corps, and completed the task on October 6, 1978. The method approved by the Corps required Granite to remove the STG waterstop and surrounding concrete by pneumatic chipper and to insert Vinylex and new concrete. Ultimately, the Corps did allow Granite to leave about 50 to 100 feet of STG waterstop in place to avoid chipping large holes in the monoliths.

B.

As a second ground for recovery, Granite contends that the Corps arbitrarily demanded strict compliance with the specifications by rejecting the STG waterstop without ever determining whether it was adequate for the Aberdeen project. Acknowledging that the waterstop did not literally meet the specifications, Granite argues that the government acted unreasonably in rejecting the embedded waterstop, because the material was far stronger than was necessary for

the project and the cost of removing and replacing the waterstop was extraordinarily high. According to Granite, the government should have accepted the installed waterstop with a reduction in the contract price, because insistence on total removal resulted in economic waste. Granite therefore argues that the directive to remove and replace the waterstop constituted a constructive change to the contract.

In rejecting Granite's argument, the Board determined that the government was entitled to performance in strict compliance with provision CRD-C 572-74, and had the right to reject the waterstop rather than seek a price adjustment. The Board found that the Corps had "cogent reasons" for the need to tear out the waterstop and that the Corps performed "full technical evaluations of proposed alternative options" before ordering its removal.

C.

Under clause GP-10(b) of the contract, the contractor was required to replace, without charge, any material which did not conform to the contract requirements "unless in the public interest, the Government consents to accept such material or workmanship with an appropriate adjustment in the contract price." The government therefore had the discretion to accept nonconforming waterstop if it was deemed adequate for the project. In addition, the government was required under clause GP-10 to consider the public interest when deciding whether to replace the nonconforming waterstop.

The Board's finding that the government performed full technical evaluations of the alternative options proposed by Granite is not supported by substantial

evidence. The testimony of the government witnesses reveals that the Corps only considered whether the "cut and splice" and "rerouting" methods proposed by Granite would result in waterstop which met the literal requirements of the specifications. The Corps never determined whether the STG waterstop was sufficient for its intended purpose or whether the repair methods submitted by Granite would render the waterstop adequate for the project. After the Corps denied all proposals to leave the material in place, Granite provided the government with various means of removing the embedded STG waterstop from the concrete monoliths. While the government entertained proposals for total waterstop replacement, it insisted on complete removal of the waterstop without any evaluation of the technical necessity for the rework and thus did not exercise the discretion vested under clause GP-10. Therefore, we agree with the dissenting member of the Board that the only real criterion used by the government in directing the removal and replacement of the waterstop was strict compliance with the specifications. We also agree with his conclusion that the decision to reject the STG waterstop without consideration of the requisite performance standards for the Aberdeen project and without providing a rational basis for rejecting Granite's proposed repairs was arbitrary and capricious.

D.

The contractor has the burden of proving that the proposed corrective work substantially complies with the specifications. *See Hunter Ditch Lining*, AGBCA No. 87-391-1, 91-2 B.C.A. (CCH) ¶ 23,673 at 118, 565, 1991 WL 3968 (1991). In support of its claim,

Granite presented an expert witness, Jerome Raphael, a professor of civil engineering with 18 years experience with the Bureau of Reclamation and the Corps in the design of concrete dams. He was associated with 50 dam construction projects, all of which contained waterstops. During the four or five years prior to trial, Professor Raphael actively reviewed the design of six major dams as a member of consulting boards for owners and engineers. He analyzed the qualities of the embedded STG waterstop; compared these qualities with the conditions at the dam, and opined that the waterstop material exceeded the required performance standards of the Aberdeen project. After calculating project safety factors in a conservative manner, he acknowledged that the waterstop did not meet the specifications, but stated that the material exceeded the project safety margin some twenty-fold, while the remainder of the project had a safety factor of two. Professor Raphael also testified that the weakest waterstop had 16 times more capacity for joint elongation than necessary for the conditions at Aberdeen. He determined that the waterstop could withstand 40 times the water pressure that would ever exist at Aberdeen. He stated that the difference between the STG waterstop and the requirements of the specification for tensile strength was insignificant. In addition, Professor Raphael noted that the waterstop showed no signs of brittleness, cracking, or deterioration at the lowest recorded temperature in Aberdeen and explained that the waterstop would not fail at considerably lower temperatures, because it is insulated by the surrounding concrete and water.

In Professor Rahpael's opinion, the waterstop embedded by Granite prior to June 22, 1978, was ade-

quate to serve its intended purpose. He also testified that the "cut and splice" method proposed by Granite would have rendered the waterstop sufficient for the needs of the project. The government offered no testimony in rebuttal of the testimony of Professor Raphael.

The Board found that Professor Raphael's testimony "[was] not persuasive in asserting that the installed waterstop material would work anyway, especially when the failure of the waterstop in the finished project would be significant and extremely expensive to correct, if at all correctable." We are aware of and have given full consideration to the principle that the Board may reject even uncontroverted expert testimony when it is intrinsically unpersuasive. *Sternberger v. United States*, 401 F.2d 1012, 1016, 185 Ct.Cl. 528 (1968). However, the record is devoid of any evidence indicating that the expert testimony was either exaggerated, inherently improbable, self-conflicting, or opinion not founded in fact. Furthermore, there was no issue regarding the credibility of Professor Raphael's testimony, because the board member who heard the testimony retired shortly after the hearing and did not participate in the decision.

Our review of the record shows that the Board's rejection of Professor Raphael's testimony was based on the testimony of Leo Cain, the Corps' design engineer, who testified substantially as the Board found. (Tr. 1035). However, Mr. Cain also testified that he made no technical evaluation or computations to determine whether the material installed by Granite was sufficient to serve its intended purpose. (Tr. 1080). The government offered no evidence, based on an analysis of the STG waterstop, that there was a rea-

sonable probability that it would have to be replaced by the Corps if not removed. Consequently, we find that there was no rational basis for the Board's rejection of Professor Raphael's testimony. Therefore, we conclude, as the Court of Claims concluded in a similar case, that the only reasonable findings of fact that can be made on this issue are that the STG waterstop which had been installed by Granite was adequate for its intended purpose and also that the proposed "cut and splice" repair method would have been equally adequate for the project. *See John McShain, Inc. v. United States*, 462 F.2d 489, 494, 199 Ct.Cl. 364 (1972).

To the extent that the Board found that Granite failed to discharge its burden of proving substantial compliance with the waterstop specifications, the finding is not supported by substantial evidence.

E.

We recognize that the government generally has the right to insist on performance in strict compliance with the contract specifications and may require a contractor to correct nonconforming work. *S.S. Silberblatt, Inc. v. United States*, 433 F.2d 1314, 1323, 433 F.2d 1314 (1970). However, there is ample authority for holding that the government should not be permitted to direct the replacement of work in situations where the cost of correction is economically wasteful and the work is otherwise adequate for its intended purpose. In such cases, the government is only entitled to a downward adjustment in the contract price. *Toombs & Co., Inc.*, ASBCA Nos. 34590 *et al.*, 91-1 B.C.A. (CCH) ¶ 23,403 at 117,433, 1990 WL 172728 (1990). *Cf. Farwell Co. v. United States*,

148 F.Supp. 947, 950, 137 Ct.Cl. 832 (1957). We have reviewed *Silberblatt* and other decisions cited by the Claims Court and by the Board and find that none of these cases involved a situation where the installed product substantially complied with the specifications and its removal would result in economic waste.

The concept of economic waste has long been recognized at common law. *See* the seminal case of *Jacob & Youngs v. Kent*, 129 N.E. 889, 230 N.Y. 239 (1921). *The Restatement of Contracts 2d*, § 348(2) endorses the economic waste approach for calculating damages in certain instances where defective performance is rendered. Section 348(2) provides that an owner may recover the reasonable cost of remedying defective work if that cost is not clearly disproportionate to the owner's loss in value. If the cost is disproportionate to the loss in value, then damages are limited to the diminution in the value of the property. Illustration 4 of § 348(2) is based on *Jacob & Youngs v. Kent.*

In addition, numerous state courts have utilized the economic waste rules. *See* Annotation, "Modern Status of Rule as to Whether Cost of Correction or Difference in Value of Structures is Proper Measure of Damages for Breach of Construction Contract," 41 A.L.R. 4th 131 (1985).

This principle has also been applied in cases involving government contracts. *Valley Asphalt Corp.*, ASBCA No. 17595, 74-2 B.C.A. (CCH) ¶ 10,680 at 50,770-71, 1974 WL 1974 (1974); *See Hunter Ditch Lining, supra*; *Toombs & Co., Inc.*, 91-1 B.C.A. (CCH) at 117,433; *Pacific Western Constr.*, ASBCA No. 28462, 86-2 B.C.A. (CCH) ¶ 18,816 at 94,824-25, 1985 WL 17348 (1985); *See also* J. Cibinic, Jr.

and R. Nash, Jr., *Administration of Government Contracts*, 604-607 (2nd ed. 1986).

Although we have found no decision by this court which has considered the doctrine of economic waste, it was the rationale for the Court of Claims decision in *Eastern S.S. Lines v. United States*, 112 F.Supp. 167, 125 Ct.Cl. 422 (1953). In that case, the government chartered Eastern's vessel and was obligated upon the return of the ship to pay the company the amount required to restore the ship to its previous condition. The court held that the steamship company was not entitled to recover the costs of restoration where such costs would have been double the restored value of the ship. The court concluded that holding the government to a strict performance standard would constitute economic waste. 112 F. Supp. at 174-175. Similarly, in *H.L.C. & Assoc. Constr. Co. v. United States*, 367 F.2d 586, 176 Ct.Cl. 285 (1966), the court discussed the economic waste doctrine but determined that the case did not support a finding of economic waste. 367 F.2d at 600.

F.

Granite claims that the cost of removing and replacing the waterstop was $3.8 million. Although the Board never reached the issue of damages in this case, it found that Granite obtained a judgment of $894,750 against two suppliers and that Granite settled with two other suppliers for $400,000. At trial, the attorney for the government conceded that Granite had incurred costs, including delays, of more than $400,000 in removing and replacing the waterstop. (Tr. 997). The removed waterstop initially cost Granite $5,752.80. After a careful review of the whole record, we hold that the Corps' requirement

that the waterstop be torn out and replaced resulted in economic waste. *See Toombs & Co., Inc., supra.*

The Corps made no effort to evaluate the quality of the waterstop in relation to the needs of the Aberdeen project. Had it done so, the record shows that the Corps would have discovered that the waterstop was entirely adequate for the project and that its replacement was unnecessary. Rather than allowing the STG waterstop to remain in place, the Corps required Granite to engage in an economically wasteful course of performance. Under the circumstances, the only reasonable remedy available to the government was a downward adjustment in the contract price. Therefore, the directive to remove and replace the waterstop constituted a constructive change under the Changes clause of the contract. *Arnold M. Diamond, Inc.*, ASBCA No. 15063, 73-2 B.C.A. (CCH) ¶ 10,359 at 48,925, 1973 WL 1507 (1973).

CONCLUSION

For the foregoing reasons, we conclude that Granite is entitled to an equitable adjustment for the cost of removing and replacing the STG waterstop. Any recovery against the government shall be reduced by the reasonable cost Granite would have incurred if it had been permitted to repair the waterstop with its "cut and splice" method. Granite's recovery shall also be reduced by any other credits and offset due the government.[3]

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[3] During the trial before the Board, the government's attorney argued that the amount which Granite recovered from its suppliers, particularly the $400,000 settlement, should be offset against any recovery which Granite obtains from the government. (See. Tr. 998). The issue of quantum is not be-

Accordingly, the judgment of the Claims Court is reversed and the case is remanded to that court with instructions to enter summary judgment in favor of Granite. The Claims Court is further directed to remand the case to the Board for a determination of the amount which Granite is entitled to recover, consistent with this opinion.

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fore us and the question as to whether Granite's recovery should be reduced by the amount collected from its suppliers has not been briefed. We intimate no opinion on this issue, which is a matter to be decided by the Board as a part of its determination of the quantum of recovery.

APPENDIX B

IN THE UNITED STATES CLAIMS COURT

No. 398-89C

(Filed: April 17, 1991)

GRANITE CONSTRUCTION CO., PLAINTIFF

v.

THE UNITED STATES, DEFENDANT

Contracts; Wunderlich Act; standard of review; government's right to insist on the use of material specified.

OPINION

LYDON, Senior Judge:

This Wunderlich Act review case is before the court on the parties' cross-motions for summary judgment. The court must decide whether the Corps of Engineers Board of Contract Appeals (ENGBCA or Board) erred in finding that the contractor Granite Construction Company (Granite) was not entitled to recover damages claimed for removal and replacement of non-conforming materials on a concrete lock and dam under construction. After consideration of the parties' submissions and oral argument, heard

on April 12, 1991, the court grants defendant's motion for summary judgment, for the following reasons.

FACTS

The facts as found by the Board are summarized below. On October 26, 1976, Granite Construction Company (Granite) entered into a contract with the U.S. Army Corps of Engineers (Corps) for construction of a lock and dam located near Aberdeen, Mississippi. The contract was worth approximately $36 million. The contract terms required construction of concrete monoliths to form the lock walls and dam. Each monolith is composed of several concrete "lifts" about five feet high. When completed, the monoliths are about sixty feet high, forty-two feet long, and thirty feet wide. Adjacent monoliths were to be separated by small gaps or joints.

The contract required polyvinylchloride (PVC) waterstop to be embedded in the vertical joints between monoliths. The parties' dispute arises from the Corps' rejection of the waterstop, after about ten percent of it had been embedded in concrete, when it was discovered that the waterstop failed to meet contract specifications. The PVC waterstop Granite used for this project came in fifty-foot rolls. The waterstop is nine inches wide with a center bulb ¾ inch thick. Ribbed flanges on either side of the waterstop are embedded in the concrete, with the center bulb in the joint. The flanges are ⅜ inch thick, with lengthwise ribs. The vertical waterstop is installed about eighteen inches inside the face of the monolith. The waterstop is keyed into the ground

at the foundation, and it runs vertically almost to the top of the monolith. The purpose of the waterstop is to prevent water from leaking through the joints of the lock and dam.[1]

About half (four inches) of the waterstop is placed in the wet concrete during construction on the monolith. As the concrete hardens, it holds the waterstop. Next, the contractor pours the concrete for the adjacent monolith around the other half of the waterstop. The resulting monoliths have about a one-inch gap between them, filled by the waterstop.

The lock walls contain water tunnels called culverts running through them, which are about twelve and a half feet square, for emptying and filling the lock chambers. Waterstop is required to be installed around the culvert at each vertical monolith joint.

Paragraph 14.3 of the contract specifications provides, in part:

> 14.3 *Waterstops.* Waterstops of rubber or of polyvinylchloride (PVC) shall be installed in joints as shown on the drawings or as otherwise directed. The type of material, location, dimensions, and method of installation shall be as shown on the drawings. In order to eliminate faulty installation that may result in joint leakage, particular care shall be taken to see that the waterstops are correctly positioned during installation. The bottom of each waterstop shall

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[1] Plaintiff argues that the function of the waterstop is strictly cosmetic, to prevent public alarm at the sight of water leaking through the dam.

> be embedded in the foundation as shown on the drawings. All waterstops shall be installed so as to form a continuous watertight diaphragm in each joint. . . .

This paragraph further provides that PVC waterstops shall conform to the requirements of CRD-C 572. CRD-C 572-74 provides, in part:

> 2.1 Waterstop. The waterstop shall be of the shape and dimensions shown on the drawings accompanying the project specifications.
>
> 3. Inspection and Testing.
>
> 3.1 All material and all waterstop will be subject to rigid inspection and testing in order to insure that the supplied waterstop meets the requirements of these specifications. Every facility shall be provided for representatives of the Government to perform careful sampling and inspection of the finished waterstop. The sampling of finished waterstop and all testing of finished waterstop, and job-made splices will be done by the Government.

Contract provision CRD-C 572-74, quoted above, also contains detailed requirements for testing samples of finished waterstop, including tensile strength, ultimate elongation, low temperature brittleness, stiffness in flexure, and accelerated extraction. Paragraph 8 of this provision warns that "the waterstop may be rejected if it fails to meet any of the requirements of these specifications."

Paragraph 14.3 further provides:

> 14.3.3 *Testing.* The contractor shall submit samples of non-metallic waterstops and samples of job-made and factory-made splices of non-metallic waterstops for inspection and testing in accordance with CRD-C 513 and 572. The testing of the samples of waterstops and splices shall be performed by and at the expense of the Government. If a sample fails to meet the specification requirements the waterstop or splicing method will be rejected and new samples shall be submitted for inspection and testing. The cost of retesting will be deducted from payments due to the contractor . . . .
>
> 14.3.3.1 *Samples of Waterstop Material.* Each sample shall be a piece not less than 12 inches long cut from each 200 feet of finished waterstop furnished. Each sample shall be identified to indicate the manufacturer, size, type of material, and quantity of material and shipment [the] sample represents.
>
> . . .
>
> Adequate provisions shall be made to support and completely protect the waterstops during the progress of the work. The contractor shall replace and repair, at his expense, any waterstop punctured or otherwise damaged before final acceptance of work. . . .
>
> 14.3.2 *Splices.* All joints in the waterstop shall be spliced together to form a continuous watertight diaphragm in each joint.
>
> 14.3.2.1 *Non-Metallic Waterstops.* All splices shall be neat with the ends of the jointed ma-

terials in true alignment. . . . The continuity of the characteristic members of the cross sections of the waterstop design ribs, ribs, tabular center axis, protusions [sic], and the like [sic], be maintained across the splice.

The contract also contains General Provisions (GP) and Special Provisions (SP) with regard to inspection and testing of materials and workmanship. Clause GP-10 entitled "Inspection and Acceptance" provides, in part:

(a) Except as otherwise provided in this contract, inspection and test by the Government of material and workmanship required by this contract shall be made at reasonable times and at the site of the work, unless the Contracting Officer determines that such inspection or test of material which is to be incorporated in the work shall be made at the place of production, manufacture or shipment of such material . . . .

(b) The contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price. The contractor shall promptly segregate and remove rejected material from the premises.

. . . .

(d) The contractor shall furnish promptly without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may

be required by the Contracting Officer. All inspection and test by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract . . . .

General Provision 9 provides:

9. MATERIAL AND WORKMANSHIP (1964 JUN).

(a) Unless otherwise specifically provided in this contract, all equipment, material, and articles incorporated in this work covered by the contract are to be new and of the most suitable grade for the purpose intended. . . . The contractor shall furnish to the contracting officer for his approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the contractor contemplates incorporating in the work . . . . The contractor shall furnish the contracting officer for approval full information concerning the material or articles which he contemplates incorporating in the work. . . .

General Provision 32 requires the contractor to implement and maintain an effective work inspection system:

32. CONTRACTOR INSPECTION SYSTEM (1964 NOV)

The contractor shall (i) maintain an adequate inspection system and perform such inspections

as will assure that the work performed under the contract conforms to the contract requirements, and (ii) maintain and make available to Government adequate records of such inspections.

The Special Provisions of the contract require the contractor to implement and maintain a quality control system:

SP-38. CONTRACTOR QUALITY CONTROL: The Contractor shall provide and maintain an effective Quality Control System that complies with General Provision 32 of the contract entitled "Contractor Inspection System."

(a) The contractor shall establish a Quality Control System to perform sufficient inspection and tests of all items of work, including that of his subcontractors to insure conformance to applicable specifications and drawings with respect to the materials, workmanship, construction, finish, functional performance, and identification. This control shall be established for all construction work performed pursuant to the contract. *Where the technical provisions of the contract provide for Government quality control or assurance by inspections or testing, it shall not relieve the contractor from the responsibility of doing such testing or inspection as is necessary to assure himself or the Government that the specifications are being met* . . . . (emphasis added)

(b) The Contractor's Quality Control System is the means by which the contractor assures himself that his construction complies with the requirements of the contract plans and specifications. . . .

On March 4, 1977, Granite ordered 7,100 linear feet of PVC waterstop from Vimco of Laurel, Maryland, at a total price of $5,752.80. Vimco obtained the waterstop from Saf-T-Grip Specialties (STG). Upon inquiry, Granite learned that the Corps wanted four one-foot samples, as well as splices of the waterstop for testing. After receiving the samples from STG, which were black in color, Granite forwarded them to the Corps for testing on or about April 20, 1977. After testing, the Corps informed Granite, on July 18, 1977, that the samples met the contract requirements of CRD-C 572-74.

On September 6, 1977, STG requested permission to supply the "very same material" that the Corps had tested and approved, but the color would be green instead of black. STG explained that the color of the waterstop was changed periodically for inventory purposes. When Granite relayed this request to the Corps, the Corps became concerned that the waterstop would not be the same material as the tested samples. Consequently, STG executed a certification, on September 16, 1977, that the material to be shipped to Granite would be from the same lot and compound as the tested samples. On October 4, 1977, Granite's office engineer Bob Murray certified to the Corps that STG's certification was correct. Ultimately, however, STG's request to ship green rather than black waterstop was withdrawn. The record indicates that the Corps relied on these certifications in determining that no further testing of the waterstop would be necessary after delivery to the jobsite.

In a memorandum from the Corps' area engineer to the Corps' resident engineer, dated November 1, 1977, the issue of responsibility under the contract for testing waterstop was addressed:

> Quality assurance testing by the Government falls into two categories:
>
> a. Those tests that are solely the responsibility of the Government, and
>
> b. Those tests that are required to insure the effectiveness of the Contractor's quality control program.
>
> Those materials that are to be tested by the Government and that are not part of the Contractor's quality control program are . . .
>
> c. *Waterstops.* This material is tested by [the Corps' Waterway Experiment Station] in accordance with procedures outlined in the specifications, CRD-C 513 and CRD-C 572. . . .

Granite received the first shipment of waterstop in October of 1977, and billed the government for 7,100 linear feet of waterstop on November 28, 1977. On November 19, 1977, Granite's quality control engineer certified that all material stored on the jobsite for which payment had been requested met all the specifications and requirements of the contract.

During a routine inspection of Granite's storage area in November of 1977, the Corps' Mr. Baker looked at the shipment of waterstop, but he did not measure, check or sample the material at that time.

At the subsequent administrative hearing before the Board, Granite's personnel testified that they assumed the Corps had sampled and tested the waterstop after it arrived on the jobsite, in accordance with contract provision CRD-C 574-72. Granite was unaware that the Corps did no further testing of the waterstop between October of 1977 and June of 1978. However, Granite did not submit any waterstop samples to the Corps for testing during this period. More-

over, Granite provided certifications to the Corps that the waterstop to be embedded in the concrete was the same material the Corps had already tested and approved. This fact seems to indicate that Granite knew the Corps did no further testing of the waterstop after the initial testing and approval.

On April 3, 1978, Granite began embedding the waterstop in the concrete monoliths. Shortly thereafter, during a visual inspection of the embedded waterstop, the Corps notified Granite of waterstop problems in the nature of cross-sectional area and dimensional differences within the material. When Granite contacted STG in this regard, STG responded by certifying, on April 27, 1978, that the waterstop was "manufactured at one time from one lot and shipped complete to the above project."

Around the end of May, 1978, Granite became aware that it had not received the full 7,100 feet of waterstop it had ordered, and for which it had paid the supplier. STG agreed to send a second shipment immediately, and the waterstop was delivered on or about June 1, 1978. On that date, STG certified that the second shipment was from the same lot and compound as the first shipment, and explained that the waterstop had been inadvertently overlooked in the warehouse.

On or about May 30, 1978, the Corps informed Granite it would take about thirty days to test the second shipment of waterstop. Upon testing samples from the second shipment, the Corps found that only one out of the five samples tested met both tests of ultimate elongation and tensile strength. Granite was informed of the negative test results on June 19, 1978.

Because Granite had repeatedly certified that both shipments of waterstop were from the same lot, the

Corps informed Granite on June 22, 1978 that all waterstop was rejected. At this point, Granite maintained that the two shipments were from different lots, and requested further testing of samples from the first shipment. On June 26, 1978, the Corps told Granite that samples from the first shipment had failed testing.

Grante ceased concrete operations on June 22, 1978. At that time, Granite had placed about 800 feet of waterstop in concrete, slightly more than ten percent of the total 7,100 feet of waterstop. The concrete pours were on the critical path.[2] The parties disagree as to whether it was necessary for Granite to shut down its concrete operations.

The parties immediately agreed to obtain 5,000 feet of Vinylex waterstop, which previously had been approved by the Corps for use on other projects. Near the end of June, 1978, Granite proposed a "cut and splice" method to correct the waterstop problem, which involved splicing Vinylex waterstop onto the STG waterstop already embedded in the concrete. However, the Corps rejected the "cut and splice" method because it was not a "true repair" of the defective material, and because the physical characteristics of the two types of waterstop did not match. Contract provision 14.3.2.1 requires the continuity of the physical characteristics of spliced waterstop materials to be maintained across the splice.

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[2] The "critical path" is a method of organizing and scheduling a complex project consisting of various interrelated small projects. Items of work that must be performed on schedule are on the "critical path." A delay of work along the critical path will affect the entire project. *Utley-James, Inc. v. United States*, 14 Cl. Ct. 804, 809 (1988) (quoting *Haney v. United States*, 230 Ct. Cl. 148, 167-68, 676 F.2d 584, 595 (1982)).

Granite requested that the Corps provide it with design criteria or calculations for the waterstop, so Granite could hire a consultant to determine whether the STG waterstop was adequate for its intended purpose, but the Corps felt it was unnecessary, since the Corps would accept nothing less than complete removal and replacement of the STG waterstop. At the administrative hearing before the Board, the Corps explained that waterstop is an "off the shelf" item that is not specifically designed for individual dams.

On June 26, 1978, after meeting with a Granite representative, the Corps' resident engineer noted in his diary: "Contr[actor] wants to know [if] the Gov[ernment] will or can accept the waterstop recognizing its actual test value. Contr[actor] wants to know our criteria for accepting defective waterstop. Gov[ernment] advises they won't accept less than req[uire]d GP-10." The Corps' rejection of the STG waterstop apparently was premised on clause GP-10, "Inspection and Acceptance," which requires the contractor to replace any material not conforming to contract requirements.

Granite's next proposal to correct the waterstop problem was a "rerouting" method, whereby Granite would embed additional conforming waterstop into the concrete, which involved some splicing with STG waterstop, but would cause minimal delay of concrete placement. The Corps rejected this and all other remedial proposals by Granite, because the STG waterstop did not meet contract specifications. The Corps required total removal and replacement of the STG waterstop. The Corps' position was confirmed in writing to Granite on June 28, 1978. Ultimately, the Corps did allow Granite to leave about 50 to 100 feet of STG waterstop embedded in the first lift of

some monoliths, to avoid chipping large holes in the lifts.

Granite began removing and replacing the STG waterstop on or about June 22, 1978, and completed the task on October 6, 1978.

Granite sued all four waterstop suppliers in federal district court. Two of the suppliers settled with Granite for $400,000. Granite obtained a default judgment against the other two suppliers, in the amount of $897,000. Granite assigned its rights against the two defaulting suppliers to certain insurers. In addition, Granite agreed to pursue its claim against the Corps, and to split any recovery with the two settling suppliers.

Granite subsequently filed an administrative claim with the Board, and a trial was held in May of 1983. On December 19, 1988, the Board issued a split decision denying Granite's claim. One of the three judges on the panel concurred in part and dissented in part.[3] Granite filed an appeal of the Board's decision in this court on August 14, 1988.

DISCUSSION

A. Standard of Review

The issue before the court is whether the Board's decision to deny plaintiff's claim comports with the standards set forth in the Wunderlich Act. In a Wunderlich Act case, the court's review is limited to

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[3] In essence, the dissenting judge concluded that the Corps was responsible for delay costs in failing to timely test the waterstop, and Granite was responsible for direct costs of removal and replacement of the non-conforming waterstop.

the administrative record.[4] The court must uphold the Board's findings of fact unless they are fraudulent, arbitrary, capricious, so erroneous as to imply bad faith, or not supported by substantial evidence. 41 U.S.C. § 321. *See, e.g., Erickson Air Crane Co. v. United States*, 731 F.2d 810, 814 (Fed. Cir. 1984); *B.D. Click Co. v. United States*, 222 Ct. Cl. 290, 296, 614 F.2d 748, 751-52 (1980); *Kaminer Constr. Corp. v. United States*, 203 Ct. Cl. 182, 191, 488 F.2d 980, 984 (1973); *Utley-James, Inc. v. United States*, 14

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[4] The Wunderlich Act, 41 U.S.C. §§ 321-22, provides the following standard of review:

> § 321. *Limitation on pleading contract provisions relating to finality; standards of review*
>
> No provision of any contract entered into by the United States, relating to the finality or conclusiveness of any decision of the head of any department or agency or his duly authorized representative or board in a dispute involving a question arising under such contract, shall be pleaded in any suit now filed or to be filed as limited judicial review of any such decision to cases where fraud by such official or his said representative or board is alleged: *Provided, however*, That any decision shall be final and conclusive unless the same is fradulent [sic] or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith, or is not supported by substantial evidence.
>
> § 322. *Contract provisions making decisions final on questions of law*
>
> No Government contract shall contain a provision making final on a question of law the decision of any administrative official, representative, or board.

When the Wunderlich Act was succeeded by the Contract Disputes Act of 1978, 41 U.S.C. § 609, the standard of review remained the same. *Systems Technology Assocs., Inc. v. United States*, 699 F.2d 1383, 1386 n.7 (Fed. Cir. 1983).

Cl. Ct. 804, 808 (1988). "Of course, consideration must be given to all of the evidence, that which militates against and that which supports the board's decision, but the board's dicision must be upheld if there is substantial evidence to support such decision on the record as a whole." *Tecon Corp. v. United States*, 188 Ct. Cl. 436, 450-51, 411 F.2d 1271, 1279 (1969).

With respect to the Board's legal conclusions, the court is entitled to engage in *de novo review*. 41 U.S.C. § 322. *See, e.g., Erickson Air Crane, supra*, 731 F.2d at 814; *B.D. Click, supra*, 222 Ct. Cl. at 297, 614 F.2d at 752; *Kaminer Construction, supra*, 203 Ct. Cl. at 191, 488 F.2d at 984; *Utley-James, supra*, 14 Cl. Ct. at 808-09. However, as a tribunal having considerable expertise in construction contract matters, the Board's legal determinations can be helpful to the court. *See United States v. Lockheed Corp.*, 817 F.2d 1565, 1567 (Fed. Cir. 1987); *Erickson Air Crane, supra*, 731 F.2d at 814; *Utley-James, supra*, 14 Cl. Ct. at 809. In fact, the Board's decision on a question of law "is entitled to great weight if it is based on the Board's expertise and is not unreasonable." *Dale Ingram, Inc. v. United States*, 201 Ct. Cl. 56, 71, 475 F.2d 1177, 1185 (1973).

B. Review of the Board's Decision

Plaintiff's position is that the Board's decision is arbitrary and capricious in finding that Granite had the ultimate responsibility for ensuring that the waterstop met contract requirements. Plaintiff maintains that the Corps was required, under the contract, to timely test the waterstop material, and that its failure to do so caused plaintiff damages in excess of $3.5 million. In addition, plaintiff argues that the Corps

had no right to insist on strict compliance with the contract specifications once the waterstop was embedded in the concrete, but must at that point consider a number of factors to avoid "economic waste."

Defendant urges the court to sustain the Board's decision that Granite had the ultimate responsibility for ensuring that the waterstop met contract specifications, and that the Corps had a right to insist on strict compliance with the contract.

The issue before the Board was whether plaintiff or defendant had the ultimate responsibility under the contract for assuring that the waterstop met contract requirements. This issue involves contract interpretation, which is a matter of law. *Government Systems Advisors, Inc. v. United States*, 847 F.2d 811, 812 n.1 (Fed. Cir. 1988); *P.J. Maffei Bldg. Wrecking Corp. v. United States*, 732 F.2d 913, 916-17 (Fed. Cir. 1984); *Fry Communications v. United States*, 22 Cl. Ct. 497, 503 (1991). In deciding that issue, the Board followed a well established rule of contract interpretation: "An interpretation that gives a reasonable meaning to all parts of the contract will be preferred to one that leaves portions of the contract meaningless." *Fortec Constructors v. United States*, 760 F.2d 1288, 1292 (Fed. Cir. 1985); *see also Fry Communications, supra*, 22 Cl. Ct. at 503. The Board concluded that, under the contract, Granite had the ultimate responsibility for ensuring that the waterstop meets contract requirements. The court is entitled to engage in a *de novo* review of this legal conclusion.

Plaintiff frames the issue before the court as whether the Corps had the responsibility to test the waterstop before it was embedded in the concrete.

In support of its position that the Corps had the sole duty to test the waterstop, plaintiff points to contract provision CRD-C 572, quoted above, which states in paragraph 3.1 that "all waterstop will be subject to rigid inspection and testing" and in paragraph 14.3.3 that "sampling of finished waterstop and all testing of finished waterstop and job-made splices will be done by the Government." Plaintiff argues that these provisions consistently state that testing of waterstop will be performed by and at the expense of the government. Plaintiff argues that these waterstop provisions are technical provisions, and therefore should prevail over the more general provisions regarding contractor inspection and quality control systems. However, the court reads these contract provisions otherwise.

The general provisions in clause GP-10 of the contract place on the contractor the responsibility of ensuring, by means of a contractor inspection system, that the work performed on the project conforms to contract requirements, and to replace any nonconforming material without charge. More significant, however, are the special provisions of the contract which require the contractor to implement and maintain a quality control system. In particular, SP-38 specifically states that "where the technical provisions of the contract provide for Government quality control or assurance by inspections or testing, it shall not relieve the contractor from the responsibility of doing such testing or inspection as is necessary to assure himself or the Government that the specifications are being met." By its very terms, SP-38 establishes its priority over the more general technical provisions relating to government testing. It is the general rule in this court that specific con-

tract provisions prevail over more general provisions when there is a conflict. *Kenneth Reed Constr. Corp. v. United States*, 201 Ct. Cl. 282, 290, 475 F.2d 583, 589 (1973); *Hol-Gar Mfg. Corp. v. United States*, 169 Ct. Cl. 384, 396, 351 F.2d 972, 979 (1965). Were it not for clause SP-38 in the contract, plaintiff's position would likely carry more weight. This provision requires plaintiff to do more than "assume" that the Corps tested the waterstop after it arrived on the jobsite. Clause SP-38 places the onus on plaintiff to take whatever steps are necessary to ensure that the waterstop embedded in the concrete meets contract specifications. Unfortunately for plaintiff, it relied on erroneous cerifications from its waterstop supplier that the waterstop it received met contract specifications. The above-quoted SP-38 clause prevents plaintiff, however, from shifting to the government the burden of ensuring that the waterstop complies with contract requirements.[5]

Paragraph 14.3.3 requires Granite to submit samples of the waterstop and splices to the Corps for testing. Granite did submit samples of the waterstop,

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[5] At oral argument, each party argued that the other side had the duty to obtain samples of waterstop for testing. A fair reading of the relevant contract provisions, when read together, points to a patent ambiguity. Paragraph 14.3.3 states "[T]he contract or shall submit samples . . . . for inspection and testing . . . ," whereas paragraph 3.1 states that "sampling . . . will be done by the Government." Such an obvious discrepancy in the contract provisions in this regard gives rise to a duty on the contractor's part to make inquiry prior to bidding, and failure to do so precludes the court from considering the reasonableness of the contractor's interpretation. *See Fontec Constructors, supra*, 760 F.2d at 1292; *Newsom v. United States*, 230 Ct. Cl. 301, 304, 676 F.2d 647, 649 (1982); *Beacon Constr. Co. v. United States*, 161 Ct. Cl. 1, 7-8, 314 F.2d 501, 504 (1963.

obtained from the supplier, after Granite ordered the waterstop, but before Granite received delivery of the waterstop that was actually installed. There is no dispute that Granite failed to submit any samples of waterstop for testing between the time the waterstop was delivered to the jobsite and the time the Corps first noticed material differences in the waterstop that had already been embedded in concrete. The government admits it did not test samples from every 200 linear feet of waterstop, pursuant to paragraph 14.3. In explaining its reason for not testing every 200 feet of waterstop, the government points out that Granite provided certifications that the waterstop delivered to the jobsite was the same material as the samples of waterstop the Corps previously had tested and approved. In view of Granite's obligations, under the work inspection and quality control provisions of the contract, to ensure that its work and materials meet contract requirements, the government reasonably relied on plaintiff's certifications that the waterstop conformed to contract specifications.

Plaintiff reads the language of paragraph 3.1, which states "all waterstops will be subject to rigid testing and inspection" as mandating government testing. However, a strikingly similar clause was construed by the Court of Claims as giving the government a right, but not a duty, to inspect and test. *Kaminer Construction, supra,* 203 Ct. Cl. at 193, 488 F.2d at 986. In *Kaminer Construction,* the dispute involved the collapse of a steel derrick after government inspection and approval, caused by the contractor's use of bolts that were ⅛ inch too small. The court concluded that the clause "material to be furnished shall be subject to inspection and tests" without expense to the contractor signified that the gov-

ernment had a right, rather than a duty, to conduct all-inclusive tests. "The right to inspect does not imply a duty to inspect." *Kaminer Construction*, *supra*, 203 Ct. Cl. at 193, 488 F.2d at 986. The contract also contained a provision mandating a contractor inspection system, which the court found to be more specific than the government's right to inspect clause. *Kaminer Construction*, *supra*, 203 Ct. Cl. at 195, 488 F.2d at 987. The court held that the defect was latent, and was not so obvious as to relieve the contractor of its duty to ensure proper construction. *Id.*

At minimum, the contract provisions give the Corps a right to inspect and test the waterstop. Even if the contract requires the Corps to inspect and test every 200 feet of waterstop, Granite is not thereby relieved of its responsibility to provide waterstop that conforms to the contract requirements. *See Kenneth Reed Construction*, *supra*, 201 Ct. Cl. at 294, 475 F.2d at 590. Granite admits the STG waterstop it removed from the concrete did not meet contract specifications. To interpret the contract otherwise would render meaningless clause GP-32, requiring a contractor inspection system, and clause SP-38, requiring a contractor quality control system. An interpretation that gives reasonable meaning to all parts of the contract is preferred to one that leaves parts of the contract meaningless. *Fortec Constructors*, *supra*, 760 F.2d at 1292; *Fry Communications*, *supra*, 22 Cl. Ct. at 503.

Plaintiff attempts to show that the parties intended for the Corps to be solely responsible for testing the waterstop by pointing to an intra-agency memorandum, dated November 1, 1977, from the Corps' area engineer to the Corps' resident engineer. Although

the memorandum states that certain materials, including the waterstop, were to be tested by the government, and were not part of the contractor's quality control system, there is no indication in the record that this was part of the parties' understanding. In fact, the memorandum appears to reflect no more than the understanding of one Corps engineer as communicated to another Corps engineer. There is no indication that the memo was directed to Granite, much less that it was part of the parties' agreement. The Board apparently considered this contention to be without merit, and did not address it. The court agrees.

Plaintiff next argues that, even though the Corps may be entitled to strict compliance with the contract terms before the waterstop is embedded in the concrete, the Corps has no right to insist on strict compliance with the contract terms once the waterstop is installed. After installation, plaintiff argues, the Corps "must consider the extent and nature of the defect, and the integrity and cost of repairs versus the cost of total removal and replacement." Because the cost of repairs allegedly exceeded $3.8 million, plaintiff argues it was "economic waste" for the Corps to require complete replacement of the STG waterstop, especially when the STG waterstop comprised only ten percent of the total waterstop in the project. Although Granite acknowledges that the STG waterstop did not meet contract specifications, as it averaged thirteen percent below specification requirements with regard to the primary tests of tensile strength and ultimate elongation, Granite nonetheless argues that the waterstop was adequate for its intended purpose. Plaintiff complains that the Corps did not even bother to evaluate whether the STG waterstop was adequate for its intended purpose. For these reasons, plaintiff

argues that there is insufficient evidence for the Board's conclusion that the Corps provided "cogent reasons for the need to replace the material."

The contract permits the government to reject waterstop that fails to meet any of the requirements of the contract specifications. CRD-C 572-74 ¶ 8.1. This provision reflects the general rule that the government, like any other party to a contract, "is entitled to receive that for which it contracted and has the right to accept only goods that conform to the specification." *Cascade Pacific Int'l v. United States*, 773 F.2d 287, 291 (Fed. Cir. 1985); *American Elec. Contracting Corp. v. United States*, 217 Ct. Cl. 338, 350, 579 F.2d 602, 608 (1978); *Jet Constr. Co. v. United States*, 209 Ct. Cl. 200, 208, 531 F.2d 538, 543 (1976); *William F. Klingensmith, Inc. v. United States*, 205 Ct. Cl. 651, 661-62, 505 F.2d 1257, 1263 (1974). The government has a right to insist on the contractor's compliance with the specifications, regardless of its reasons. *Farwell Co. v. United States*, 137 Ct. Cl. 832, 836, 148 F. Supp. 947, 949 (1957). It is not within a contractor's province to decide what materials are equally satisfactory and substitute its judgment for that of the government. *H.L.C. & Assocs. Constr. Co. v. United States*, 176 Ct. Cl. 285, 306, 367 F.2d 586, 598 (1966). In *Farwell*, the Court of Claims rejected the contractor's argument that the copper tubing it installed was as satisfactory as the copper pipe required by the contract. "It is of no concern to plaintiff why the Government specified brass or copper "pipe" instead of "tubing," and it was not within plaintiff's province to substitute its judgment for that of the Government by deciding that tubing was satisfactory when pipe was specified." *Farwell, supra*, 137 Ct. Cl. at 836, 148 F. Supp. at

949. In the present case, it is undisputed that the STG waterstop embedded in the concrete failed to meet contract specifications.[6] Plaintiff's argument that the government failed to evaluate whether the STG waterstop was adequate for its intended purpose overlooks the fact that the government had no legal obligation to do so. Accordingly, the government had the right to act as it did by rejecting all STG waterstop used on the project.

As plaintiff correctly points out, however, the government's right to reject nonconforming work or materials is not absolute. In *Southwest Welding & Mfg. Co. v. United States*, the government tested certain

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[6] The Board summarized the test results of the STG waterstop from the first shipment as follows:

> *Tensile strength*: Two of the eight samples tested met the value set forth in the specifications. The other six samples averaged 13% below specifications.
>
> *Ultimate elongation*: None of the samples tested met the value in the specifications. The samples averaged 13% below specifications.
>
> *Low temperature brittleness*: None of the samples tested withstood the temperature of minus 35 degrees Fahrenheit in th specifications. The average temperature at which the samples failed was minus 18 degrees Fahrenheit.
>
> *Stiffness in flexure*: The one sample tested passed.
>
> *Accelerated extraction (Ultimate elongation)*: The one sample tested was 14% below specifications.
>
> *Accelerated extraction (Tensile strength)*: The one sample tested was 21% below specifications.
>
> *Effects of Alkalies*: The one sample tested met the specifications.

Subsequent testing confirmed that the second shipment of STG waterstop also failed to meet contract specifications.

welds before installation. After installation, upon testing other welds and finding them defective, the government required removal and replacement of all installed welds. The court found replacement of all welds to be unreasonable under the circumstances, because the government had not adequately proved that all the welding required replacement, since only three percent of the welds were found to be defective. *Southwest Welding & Mfg. Co. v. United States*, 188 Ct. Cl. 925, 955, 413 F.2d 1167, 1185 (1969). Likewise, plaintiff relies on a board of contract appeals decision, in which the board found the government's insistence on total replacement of defective work to be unwarranted. However, unlike the case at bar, in that case the board found the government failed to prove that rejection of the defective work was warranted. *Arnold M. Diamond, Inc.*, ASBCA No. 15063, 73-2 BCA ¶ 10,359.[7] Such is not the case here, where

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[7] In another administrative decision cited by plaintiff, the board of contract appeals upheld the government's rejection of a concrete structure. *Eller Construction, Inc.*, AGBCA 77-171-4, 83-2 BCA ¶ 16,560. The board noted there were cases on both sides of the "removal vs. repair" question, and the outcome usually turned on the facts of each situation. Plaintiff relies on this decision to support its "economic waste" theory, because the board stated that "[i]f the value of the completed structure is not measurably less than the structure promised, or if the removal of the structure would result in 'unreasonable economic waste,' the Government may be entitled to only the equivalent of nominal damages, or minor repair, and not removal of the entire structure." *Eller Construction* (citing *Valley Asphalt Corp.*, ASBCA No. 15063, 73-2 BCA ¶ 10,359). However, this position generally has not been adopted or followed by the Claims Court or its predecessor the Court of Claims. As discussed above, the general rule followed in this court is reflected in another

the Board was persuaded by the testimony of the Corps' expert witnesses to conclude that the Corps had "cogent reasons" for the need to replace the STG waterstop.

Plaintiff's primary witness, an expert in concrete dam design, testified before the Board that, based on his calculations, the STG waterstop was adequate for its intended purpose. In his opinion, the Corps should have adopted Granite's proposal to leave all the STG waterstop in place and splice Vinylex waterstop onto it. Defendant's experts were three Corps engineers who worked on the Aberdeen dam project. They were of the opinion that Granite's remedial proposals did not conform to contract specifications. The Corps engineers explained that, due to differences in the physical characteristics of the defective STG waterstop and the replacement Vinylex waterstop, the two materials could not be satisfactorily spliced together to meet contract specifications. Moreover, the Corps engineers emphasized that the waterstop must meet the contract specifications to ensure the safety and effectiveness of the project. The Board specifically found that Granite's experts "were not persuasive in asserting that the defective waterstop material would work anyway, especially when the failure of the waterstop in the finished project would be significant and extremely expensive to correct, if at all correctable." On the other hand, the Board found the Corps had "cogent reasons" for requiring replacement of the STG water-

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statement in *Eller Construction:* "There is no general license to install whatever, in the builder's judgment, may be regarded as 'just as good.'" *Eller Construction* (quoting Judge Cardozo in *Jacob and Youngs, Inc. v. Kent*, 129 N.E. 889, 230 N.Y. 239 (1921)).

stop. To the extent that plaintiff challenges the Board's finding that the Corps had "cogent reasons" for rejecting plaintiff's remedial proposals, the simple answer is that the government is entitled to get exactly what it contracted for, that is, waterstop that complies with the specifications. *See Farwell, supra*, 137 Ct. Cl. at 836, 148 F. Supp. at 949. Plaintiff admits that the STG waterstop that it was required to remove from the concrete did not meet contract specifications.

Plaintiff complains that the Board failed to weigh all the evidence and instead "simply rel[ied] on the technical expertise of the Government." Plaintiff fails to recognize that one of the Board's functions in "battles between experts" is to "choose between expert opinions and theories." Under the Wunderlich Act, the "court must accept the Board's evaluations of conflicting conclusions of expert witnesses, unless the testimony is inherently improbable or discredited by uncontrovertible evidence." *Maitland Bros. Co. v. United States*, 20 Cl. Ct. 53, 64 (1990); *see also Tecon Corp., supra*, 188 Ct. Cl at 451, 411 F.2d at 1280; *Utley-James, supra*, 14 Cl. Ct. at 808 n.7. The Board is in a better position than the court to assess the credibility and the demeanor of witnesses, and the court should defer to the Board in this regard when it is reasonable to do so. *Tecon Corp., supra*, 188 Ct. Cl. at 451, 411 F.2d at 1279; *Exxon Corp. v. United States*, 19 Cl. Ct. 755, 761 (1990). The court finds nothing unreasonable about the Board's evaluation of the expert testimony in this matter.[8]

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[8] The fact that some personnel changes occurred on the Board between, the administrative hearing and the time the Board issued its decision in this matter does not detract from the Board's ability to evaluate evidence before it, nor does it

Plaintiff cannot prevail merely because there is some evidence in the record favorable to its position. "Even uncontradicted opinion testimony is not conclusive if it is intrinsically nonpersuasive." *Sternberger v. United States*, 185 Ct. Cl. 528, 535-36, 401 F.2d 1012, 1016-17 (1968); *see also Arundel Corp. v. United States*, 207 Ct. Cl. 84, 98-99, 515 F.2d 1116, 1124 (1975); *Utley-James, supra*, 14 Cl. Ct. at 814. Because plaintiff has failed to show that the Board's findings are arbitrary and capricious, or that they are not supported by substantial evidence, the court will not disturb them, even if the administrative record may support different findings.[9] *Universal Restoration, Inc. v. United States*, 798 F.2d 1400, 1403 (Fed. Cir. 1986); *Wickham Contracting Co. v. United States*, 212 Ct. Cl. 318, 322-23, 546 F.2d 395, 397 (1976). Moreover, in challenging the Board's decision, it is plaintiff's burden to show not only that the Board erred, but also to persuade this court that had such an error not occurred, the result might have been different. *See SmithKline Diagnostics, Inc. v. Helena Laboratories Corp.*, 859 F.2d 878, 892 (Fed. Cir.

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impact a party's due process rights. There is no rule that a board decision be rendered by the same personnel who presided at the hearing. *Peterson-Sharpe Eng'g Corp. v. United States*, 6 Cl. Ct. 228, 293 (1984); *see also Tri-Cor, Inc. v. United States*, 198 Ct. Cl. 187, 194-95, 458 F.2d 112, 116-17 (1972); *Sternberger v. United States*, 185 Ct. Cl. 528, 537, 401 F.2d 1012, 1017 (1968). Neither the pleadings nor the briefs alleged improprieties in this regard.

[9] "Substantial evidence" means "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Pierce v. Underwood*, 487 U.S. 552, 564-65 (1988); *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

1988). Plaintiff has not carried its burden in this regard.

CONCLUSION

The court's review of the administrative record shows that the Board's decision is supported by substantial evidence, and otherwise comports with Wunderlich Act standards. Accordingly, plaintiff's motion for summary judgment is denied, and defendant's motion for summary judgment is granted. The Clerk of the court is directed to enter judgment dismissing plaintiff's complaint. No costs.

/s/ Thomas J. Lydon
THOMAS J. LYDON
Senior Judge

APPENDIX C

IN THE UNITED STATES CLAIMS COURT

No. 398-89 C

GRANITE CONSTRUCTION CO.

v.

THE UNITED STATES

JUDGMENT

[Filed: Apr. 13, 1991]

Pursuant to the opinion of April 17, 1991, directing entry of judgment dismissing the complaint,

IT IS ORDERED AND ADJUDGED this date, pursuant to Rule 58, that the complaint is dismissed. No costs.

ROGER L. NIEMAN
Acting
Clerk of Court

By: /s/ [Illegible]
Deputy Clerk

April 18, 1991

NOTE: As to appeal, 60 days from this date, see RUSCC 72, re number of copies and listing of *all plaintiffs*. Filing fee is $105.00.

APPENDIX D

[¶ 21,447] Granite Construction Co.

ENG BCA No. 4496
December 19, 1988
Contract No. DACW01-77-C-0005

Quality—Government Responsibility—Duty to Inspect.—The government's duty to inspect construction materials did not relieve a contractor of its obligation to ensure that waterstop embedded in large concrete monoliths for dam construction met contract specifications. The government inspected samples first submitted by the contractor and gave its approval. Thereafter, the waterstop supplier certified on several occasions that the material being provided was from the same lot as the tested samples. The government did not conduct further tests until visible differences appeared between the first and second shipments of the material. It was then found that the material, much of which had already been embedded, differed from the samples first submitted and did not meet contract specifications. The government's failure to conduct ongoing testing as the material was received and put in place did not relieve the contractor of its primary responsibility to supply material as specified. The contractor was not entitled to additional compensation for the significant expense of replacing the defective waterstop that had been installed.

Acceptance of Performance—Correction of Defects—Replacement v. Repair.—The government was entitled to removal and replacement of defective material at no additional cost, even though the contractor proposed a less expensive method to cure the defect, because the government may insist upon strict com-

pliance with its specifications. Defective waterstop had been embedded in large concrete monoliths used in dam construction. The contractor proposed that instead of removing and replacing the defective waterstop, alternate methods be used, such as an equitable adjustment for leaving the defective material in place, the splicing of acceptable waterstop to the defective materials, or the addition of conforming waterstop to the outside surface of the monoliths. The government rejected these proposals after determining that the alternative proposals would not result in the same performance standard as would be achieved by adherence to the contract specifications. The government did not abuse its discretion in insisting that the defective material be removed and replaced.

For the appellant: Dempsey & Bastianelli, Washington, D.C., by Adrian L. Bastianelli III and Scott A. Livingston. For the government: Frank Carr, Government Trial Attorney, Washington, D.C., Alva A. Hall, Government Trial Attorney, Atlanta, Georgia, and William E. Gulley, Government Trial Attorney, Mobile, Alabama.

Opinion by Administrative Judge Jockisch with Administrative Judge Solibakke concurring. Separate opinion by Administrative Judge Steele concurring and dissenting in part.

[Text of Opinion]

From April to June 1978, the Contractor worked and poured huge concrete blocks and embedded in them material called "waterstop" to prevent water from leaking between the blocks. By June, it had embedded about 8% of the necessary waterstop. (Tr. 892, 1737-1740). On June 22, the Resident Engi-

neer told the Appellant that "the entire lot [of waterstop] is rejected." He also said, "halt all concrete placements involving the embedding of the rejected waterstop." (App. Exh. 8). The Appellant claims perhaps, 3½ million dollars, arising out of these problems with the waterstop.

Findings of Fact

1. On October 26, 1976, Granite Construction Company ("Granite" or "Appellant") entered into Contract No. DACW01-77-C-0005 (the "contract") with the U.S. Army Corps of Engineers ("Corps" or the "Respondent"). The contract called for construction of a lock and dam near Aberdeen, Mississippi. The contract was in the estimated amount of $36,263,924, R4, (Tab 2).

2. The contract required construction of concrete monoliths to constitute the lock walls and the dam. (Contract, section 3A; Elmore, Tr. 501-03). The monoliths are blocks of concrete, generally 60 feet in height, 42 feet in length and 30 feet in width. (Drawing Nos. 10/6, 10/7; Elmore, Tr. 550). The plans and specifications called for a gap or joint located between adjacent monoliths. (*E.g.*, Drawing No. 10/40)

3. A rubber or polyvinylchloride ("PVC") waterstop was required to be embedded in each vertical joint between monoliths. (Contract, section 3A, paragraph 14.3). The waterstop is 9 inches in width with a center bulb having a thickness of ¾ inch. (App. Exh. 41, p. 6). It came in 50 foot rolls. (Elmore, Tr. 500). The "flanges" are ⅜ inch in thickness and have lengthwise ribs. The ribbed flanges are installed in the concrete, and the center bulb is in the joint.

The vertical waterstop is installed approximately 18 inches from the face of the lock. (Drawing No. 10/40). It is keyed into the ground at the foundation and runs vertically to near the top of the concrete structure.

4. About one-half of the water stop (4″) is placed in the wet concrete of one monolith as it is built. When the concrete hardens, it holds that half of the waterstop. Next, the contractor pours the "wet" concrete of the adjacent monolith around approximately the other 4-inches of the waterstop. When the concrete of the second monolith hardens, there are two huge blocks of concrete 60 feet by 40 feet by 30 feet with, perhaps, a one inch gap between them. That gap is filled by the 1-inch of waterstop that is in the "air" between the monoliths; each 4-inch side of the waterstop is embedded in one or the other of the two monoliths.

5. The lock walls contain culverts, approximately 12.6 feet square, for emptying and filling the lock chamber. (Drawing No. 10/6). The dam contains a "gallery" approximately 7 feet by 8 feet.(Drawing No. 30/14). Waterstop is required to be installed around the culverts at each vertical monolith joint. (Drawing No. 10/40).

6. The purpose of the waterstop is to prevent water leakage through the joints of the lock and dam. (Cain, Tr. 1013; Raphael, Tr. 845-46).

17. Paragraph 14.3 of the specifications provides, in part:

> 14.3 *Waterstops.* Waterstops of rubber or of polyvinylchloride (PVC) shall be installed in joints as shown on the drawings or as otherwise directed. The type of material, location, dimen-

sions, and method of installation shall be as shown on the drawings. In order to eliminate faulty installation that may result in joint leakage, particular care shall be taken to see that the waterstops are correctly positioned during installation. The bottom of each waterstop shall be embedded in the foundation as shown on the drawings. All waterstops shall be installed so as to form a continuous watertight diaphragm in each joint. . . .

14.3.1 *Type material.*

14.3.1.1 *Non-Metallic Waterstops.* . . . Polyvinylchloride waterstops shall conform to the requirements of CRD-C 572.

14.3.3 *Testing.* The contractor shall submit *samples* of non-metallic waterstops and samples of job-made and factory-made splices of non-metallic waterstops for inspection and testing in accordance with CRD-C 513 and 572. *The testing of the samples of waterstops and splices shall be performed by and at the expense of the Government.* If a sample fails to meet the specification requirements the waterstop or splicing method will be rejected and new samples shall be submitted for inspection and testing. The cost of retesting will be deducted from payments due to the Contractor at the rate of $475.00 per waterstop sample retested and $100.00 per splice sample retested.

14.3.3.1 *Samples of Waterstop Material.* Each sample shall be a piece not less than 12 inches long cut from each 200 feet of finished waterstop furnished. Each sample shall be identified

to indicate the manufacturer, size, type of material, and quantity of material and shipment sample represents.

14.3 *Waterstop.* . . . Adequate provisions shall be made to support and completely protect the waterstops during the progress of the work. The contractor shall replace and repair, at his expense, any waterstop punctured or otherwise damaged before final acceptance work. . . . Suitable guards shall be provided to protect exposed projecting edges and ends of partially embedded waterstops from mechanical damage when concrete placement has been discontinued.

14.3.2 *Splices.* All joints in the waterstop shall be spliced together to form a continuous watertight diaphragm in each joint.

14.3.2.1 *Non-Metallic Waterstops.* All splices shall be neat with the ends of the jointed materials in *true aligenment.* . . . The continuity of the characteristic members of the cross sections of the waterstop design ribs, ribs, tabular center axis, protusions, and the *like be maintained across the splice* (emphasis added) (R.4, Tab AA).

18. As part of the standard General Provisions the contract contained the following clauses which provide, in part, as follows:

5. TERMINATION FOR DEFAULT—DAMAGES FOR DELAY—TIME EXTENSION (1969 AUG.)

(a) The contractor's right to proceed shall not be so terminated nor the contractor charged with

> resulting damage if: (1) . . . The delay in the completion of the work arises from causes other than normal weather beyond the control and without the fault or negligence of the contractor . . . or delays of subcontractors or suppliers arising from causes other than normal weather beyond the control and without the fault or negligence of both the contractor and such subcontractor or suppliers.

Cause GP-10 "Inspection and Acceptance," which provided in part:

> (a) Except as otherwise provided in this contract, *inspection and test by the Government of material and workmanship required by this contract shall be made at reasonable times* and at the site of the work, unless the Contracting Officer determines that such inspection or test of material which is to be incorporated in the work shall be made at the place of production, manufacture, or shipment of such material . . . .
>
> (b) The contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, *unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price.* The contractor shall promptly segregate and remove rejected material from the premises.
>
> (d) The contractor shall furnish promptly without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Contracting Officer. *All in-*

spection and test by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract . . . . (Emphasis added)

9. MATERIAL AND WORKMANSHIP (1964 JUN). (a) Unless otherwise specically provided in this contract, all equipment, material, and articles incorporated in this work covered by the contract are to be new and of the most suitable grade for the purpose intended . . . The contractor shall furnish to the contracting officer for his approval the name of the manufacturer, the model number, and other identifying data and information respecting the performance, capacity, nature, and rating of the machinery and mechanical and other equipment which the contractor contemplates incorporating in the work . . . the contractor shall furnish the contracting officer for approval full information concerning the material or articles which he contemplates incorporating in the work. . . . .

19. BUY AMERICAN ACT (1966 OCT)

(a) *Agreement.* In accordance with the Buy American Act (41 U.S.C. 10a-10d), the Contractor agrees that only domestic construction material will be used (by the contractor, subcontractor, materialmen, and suppliers) in the performance of this contract . . . .

(b) *Domestic construction material.*

"Construction material" means any article, material, or supply brought to the construction site for incorporation in the building or work . . . .

32. CONTRACTOR INSPECTION SYSTEM (1964 NOV) The contractor shall (i) maintain an adequate inspection system and perform such inspections as will assure that the work performed under the contract conforms to the contract requirements, and (ii) maintain and make available to Government adequate records of such inspections. (R.4, Tab Y).

19. The subject contract also contained the following Special Provisions (SP) which provide, in part:

SP-27. RETESTING OF CONSTRUCTION MATERIALS EQUIPMENT, AND COMPLETED SYSTEMS: Materials, installed systems and/or equipment submitted by the contractor as complete and tested will be subject to spot checks, prior to final acceptance, by the Contracting Officer. Any retesting due to failure of the materials, systems and/or equipment to meet specifications shall be performed at the Contractor's expense . . . .

SP 38. CONTRACTOR QUALITY CONTROL: The Contractor shall provide and maintain an effective Quality Control System that complies with General Provision 32 of the contract entitled "Contractor Inspection System." (a) The contractor shall establish a Quality Control system to perform sufficient inspection and tests of all items of work, including that of his subcontractors to insure conformance to applicable specifications and drawings with respect to the materials, workmanship, construction, finish, functional performance, and identification. This control shall be established for all construction work

performed pursuant to the contract. *Where the technical provisions of the contract provide for Government quality control or assurance by inspections or testing, it shall not relieve the contractor from the responsibility of doing such testing or inspection as is necessary to assure himself or the Government that the specifications are being met* . . . (emphasis added).

(b) The Contractor's Quality Control System is the means by which the Contractor assures himself that his construction complies with the requirements of the contract plans and specifications. . . . (R.4, Tab Z).

20. Paragraph 15 entitled, FINISHING and 15.1 under same, entitled *Formed Surfaces*, at *SECTION 3A* of the contract Technical Provisions provides, in part:

> . . . Defective concrete shall be repaired by cutting out the unsatisfactory material and placing new concrete which shall be secured with keys, dovetails or anchors. Concrete for patching shall be drier than the usual mixture and shall be thoroughly consolidated. . . .

Paragraph 17.3.1 entitled *Repair* at SECTION 3A of the contract Technical Provisions provides, in part:

> . . . The sides of all cut out concrete shall be shaped to form a key. Minor repairs or non-permanently exposed surfaces such as inside of culverts, may be accomplished using an approved epoxy compound.

21. CRD-C572-74, which is incorporated by reference in the contract by Section 3A, paragraph 14.3.1,

contained the specifications for polyvinylchloride ("PVC") waterstop which was used on this project. (R.4, Tab C). CRD-C 572-74, which was developed and written by the Corps of Engineers, provided in part:

> 2.1 Waterstop. The waterstop shall be of the shape and dimensions shown on the drawings accompanying the project specifications.
>
> 3. Inspection and Testing
>
> 3.1 *All material and all waterstop will be subject to rigid inspection and testing in order to insure that the supplied waterstop meets the requirements of these specifications. Every facility shall be provided for representatives of the Government to perform careful sampling and inspection of the finished waterstop. The sampling of finished waterstop and all testing of finished waterstop, and job-made splices will be done by the Government.*
>
> 4. Samples
>
> 4.1 A sample not less than 12 in. long (30.48 cm) will be cut from each 200 ft. (61 m) of finished waterstop. The sample or samples representing a lot of waterstop will include not less than 4 lineal ft (1.2 m) of finished waterstop. The sample or samples will be cut into pieces of convenient size and reduced in thickness to between 1/16 and 1/8 in. (1.6 and 3.2 mm), according to the method specified in CRD-C 515. A total of not less than five dumbbell-shaped specimens will be cut from each sample using die C of CRD-C 573, with the long axis of the dumbbell parallel with the direction of extrusion.

Additional specimens will be prepared for the other tests in accordance with the provisions of the applicable test methods. When more than 200 ft. (61 m) of waterstop is represented, the tests for tensile strength and elongation will be made on the samples representing each 200 ft. (61 m), other tests will be made on the specimens taken at random from all the samples representing the lot of waterstop.

6. Detailed Requirements

6.1 Finished Waterstop.—Samples taken from the finished waterstop shall meet the requirements listed below when tested by the test method and in the number of specimens shown.

Method of Test	Number of Specimens Tested	Requirements [a]
CRD-C 573	5 per 200 ft. (61 m)	Tensile strength, using C, not less than: 1750 psi (12.17 MPa) 5 per 200 ft.
CRD-C 573	5 per 200 ft. (61 m)	Ultimate elongation, using die C, not less than: 300%
CRD-C 570	3 per lot	Low temperature brittleness, no sign of failure, such as cracking or chipping at −35 F (−35.2 C)

[a] The average or the median of the results of tests of the group 3 or 5 specimens tested will be used to determine compliance with the stated requirements, depending on which value is called for by the method of test referenced.

CRD-C 571	3 per lot	Stiffness in flexure not less low temperature brittleness, no sign of failure, such as cracking or chipping at −35 F (−35.2 C)
CRD-C 571	3 per lot	Stiffness in flexure not less than: 600 psi (4.13 MPa)
		Accelerated Extraction
Par. 7.1 below	5 per lot	Ultimate elongation, using die C not less than: 280% Tensile strength, using die C, not less than: 1500 psi (10.3 MPa)
		Effect of Alkalies
Par. 7.2 below	3 per lot	Change in weight after 7 days, between: −0.10 and +0.25%. Change in Shore durometer readings after 7 days, not more than: ±5

8. Rejection

8.1 The waterstop *may* be rejected if it fails to meet any of the requirements of these specifications. (Emphasis added).

22. In early 1977, Granite determined the quantity of waterstop needed for the job—7200 lineal feet—and solicited bids for waterstop from various suppliers. (Elmore, Tr. 506-07). Granite selected Vimco

Concrete Accessories of Laurel, Maryland and issued to it a purchase order dated March 4, 1977, for the waterstop at a total price of $5,752.80 (Elmore, Tr. 508; Govt. Exh. 18; App. Ex. 1).

23. Vimco obtained the waterstop from Saf-T-Grip Specialties (STG), which in turn obtained it from Alpha Extruders, a Canadian manufacturer and extruder of waterstop materials. (Tab HH; see also Appellant's Opening Statement at 779 and Respondent's proffer of proof Tr. Vol: 5/19 at 138; see remarks at TR 779).

24. During this time, Michael Donnino, a Granite engineer, telephoned Leo Philips, the Corps' Office Engineer, to ask how the Corps wanted to handle the samples. Philips told Donnino that the Corps wanted four 1-foot samples of the waterstop and certain splices for testing, for approval of the initial samples. (Donnino, Tr. 1695). Mr. Donnino passed this information to Appellant's Tom Elmore. (Elmore, Tr. 733).

25. At trial, Government Resident Engineer Bennett did not recall any conversation in which Mr. Philips told him that he, Philips, had discussions with Granite personnel concerning sampling of waterstop. (Bennett, Tr. 1372; Baker, Tr. 1325-26).

26. On March 9, 1977, Granite received a transmittal form from STG which stated that it would be sending four 1-foot waterstop samples. (App. Exh. A-2; Elmore Tr. 509). STG included a certification which stated that certain Saf-T-Grip Specialties waterstop was in accordance with CRD-C 572-74 and samples would be submitted under separate cover. (Exh. A-2).

27. Subsequently, STG forwarded four 1-foot samples to Granite. These were colored black. About

April 20, 1977, Granite transmitted the four 1-foot samples to the Corps. (Elmore, Tr. 513; Baker, Tr. 1299). The Corps' Waterway Experiment Station ("WES"), Vicksburg, Mississippi, received one four foot piece of waterstop and two field splices, on May 23, 1977. (R. 4, Tab D, 2; also Tab EE).

28. On July 13, 1977, WES reported that the samples met the requirements of CRD-C 572-74. Granite was not provided a copy of the test results, but it was orally informed of the results on July 18, 1977. (R.4, Tab C).

29. On September 6, 1977, STG requested permission to supply the "*very same material*" which had been approved, except that the color would be green rather than black. (R.4, Tab F). (Emphasis Provided). STG stated that the color of waterstop was changed from time to time for inventory purposes. (Elmore, Tr. 519). Granite transmitted the request to the Corps. (Elmore, Tr. 520; R.4, Tab F).

30. This development caused Respondent concern, and it sought assurance that the material to be shipped was in fact the same as the original samples that had been approved. (Baker, Tr. 1313; Bennett, Tr. 1355). As a result, Appellant passed to Respondent a certification from STG, dated September 16, 1977, that the materials to be shipped to the job site would be from the same lot and compound as the originally approved samples. (R.4, Tab E; Exh. 5). Additionally, by transmittal dated October 4, 1977, Appellant's office engineer, Bob Murray, certified that STG's September 16, 1977, certification was correct. (R.4, Tab I). Later, the request for a change in color was withdrawn. (Elmore, Tr. 521; Exh. A-5; Bennett, Tr. 1355; Tr. Vol. 5/19 at 70).

31. By memorandum dated November 1, 1977, to the Government Resident Engineer, the Government Area Engineer addressed the responsibility for quality assurance control on this job. He specifically addressed the allocation of responsibility for testing the allocation of responsibility for testing waterstop quality. (Exh. A-47; Bennett, Tr. Vol. 5/19 at 60). He stated:

Quality assurance testing by the Government falls into two categories:

> a. Those tests that are solely the responsibility of the Government, and
>
> b. Those tests that are required to insure the effectiveness of the Contractor's quality control program.
>
> Those materials that are to be tested by the Government and that are not part of the Contractor's quality control program are:
>
> * * * * *
>
> c. *Waterstops.* This material is tested by WES in accordance with procedures outlined in the specifications, CRD-C 513 and CRD-C 572. Sample requirements are outlined in the contract specifications. Testing should be coordinated with the Concrete Division, WES through this office. . . . (Exh. A-47; Bennett, Tr. Vol. 5/19 at 10-101).

32. After the first shipment of waterstop was received by Appellant in Aberdeen in October, 1977, (Elmore, Tr. 522), Apellant, by letter dated November 28, 1977, billed the Government for 7,100 linear feet of waterstop. (R4., Tab G).

33. By letter dated November 19, 1977, Appellant's quality control engineer certified that all material

(which would include waterstop) stored on the job site for which payment had been requested met all of the specifications and requirements. (R.4, Tab H).

34. During a periodic investigation of the Contractor's storage area in November, 1977, Respondent's Mr. Baker noticed that the waterstop had arrived on the job site. He inspected it to insure that it was properly stored. (Baker, Tr. 1302-03). The Corp's inspection consisted of looking at the material so Granite could get paid for it. (Elmore, Tr. 779).

35. Mr. Baker testified that he did not measure or check the quantity of material that had arrived against the request for payment. (Baker, Tr. 1315). Mr. Baker saw "no reason to force the Contractor to uncover and unstack simply so [he] could get in there and count it." (Baker, Tr. 1314; Elmore, Tr. 779). Normally, the storage yard where the waterstop material was stored was kept locked, and Respondent did not possess a key. (Baker, Tr. 1353). No samples of the waterstop were taken at this time by the Government. (Baker, Tr. 1302-03).

36. The quantity shown in the pay estimate was 7100 l.f., which was the amount for which Granite had been billed by, and paid to Vimco. (R.4, Tabs G, H; Bennett, Tr. Vol. 5/19 at 102). The Government paid Granite for the quantity, as requested in the pay estimate.

37. At the trial, Granite's witnesses testified that they had assumed that the Corps had sampled and tested the waterstop when it came on the jobsite in accordance with CRD-C 574-72. (Elmore, Tr. 524, 695, 707, 766). The Corps did not inform Granite that it had not taken samples nor had it done further testing of the waterstop, from October, 1977 to June, 1978. During this eight month period, the Corps did

not send any further samples of waterstop to the Waterways Experiment Station for testing, (Baker, Tr. 1320-24; Bennett, Tr. Vol. 5/19 at 64, 71), and Appellant never submitted more samples of waterstop to the Government for testing by WES. (Baker, Tr. 1303-04, 1320; Bennett, Tr. 1355). The first time Respondent became aware that Appellant thought Respondent was taking samples of waterstop was on July 7, 1978. (Bennett, Tr. 1732; R.4, Tab T).

38. On April 3, 1978, approximately six months after the "first shipment" was delivered, Granite began embedding waterstop in the concrete protective slab, or "mud mat." (Elmore, Tr. 523, 563). To accomplish this, Granite dug a hole in the subgrade below the mud mat and anchored the bottom of the waterstop in the hole. The remainder of the roll of waterstop material was eventually unrolled, as necessary, for installation in successive "lifts" above the mud mat. Each monolith was made up of "lifts," about 5 feet high. (Elmore, Tr. 563). Half of the width of the waterstop material, or about 4½ inches, would be embedded in the side of one lift and the other half would remain exposed until subsequent placement of the adjacent lift. (Tr. 523, 563; Exh. A-34, photograph No. 1). The waterstop was placed approximately 18 inches inside the "face" of a monolith and around the culvert, in accordance with the plans and specifications. (See *e.g.*, Drawings No. 10/9, 10/40, 30/2).

39. Shortly after Appellant began embedding the waterstop, Respondent visually inspected the material and noticed cross sectional area and dimensional differences within the material. (Elmore, Tr. 524; Bennett, Tr. 1357; Baker, Tr. 1313). This visual inspection dealt with the distinctions between various rolls

of material. After Appellant was informed of these differences, it contacted STG. Then STG, on April 27, 1978, certified that the waterstop was "manufactured at one time from one lot and shipped complete to the above project." (Elmore, Tr. 524; Baker, Tr. 1313; R.4, Tab J; App. Exh. 6).

40. Granite's witnesses testified that, at the end of May 1978, approximately seven months after delivery of the "first shipment," they noticed the supply of waterstop behind "Taylor's Store" (i.e., in the Contractor's storage area) had dwindled to nothing. (Elmore, Tr. 529). Since there were still several monoliths to be started, Granite realized it had not received the full 7100 l.f. which it thought had been delivered and paid for in October. (*Id.*). Granite called the supplier who said that the balance of the order had been stored in a warehouse in New York. (*Id.*). STG agreed to send the material right away, and this "second shipment" was delivered around June 1, 1978. (Elmore, Tr. 530). On June 1, 1978, STG certified that this shipment was from the same lot as the first. (Tr. 530; App. Ex. 7).

41. Meanwhile, about May 30, 1978, Appellant had contacted Respondent by telephone to state that it was out of waterstop, and it wanted to know how long it would take to test new waterstop. (Baker, Tr. 1305). Approximately two days later, Appellant telephoned Respondent again to ask the same question. (*Id.*). Appellant explained that "their supplier had only shipped approximately 2,000 linear feet and that their supplier claimed he had shipped the full shipment and did not have other waterstop." (Baker, Tr. 1306). Respondent informed Appellant that it would take about 30 days to test the waterstop. (Bennett, Tr. 1357). After being told this, the Appellant stated that

this would mean the job would have to shut down for days. (*Id.*).

42. Arrival of the second shipment of waterstop at the job site in early June, 1978, caused Respondent's Mr. Baker to comment: "it was a little strange that they could be getting a shipment of waterstop when their supplier was out of waterstop." (Baker, Tr. 1306, 1307). Respondent's witnesses testified that they assumed Appellant had gone ahead and ordered some new waterstop so the job would not be shut down. (Bennett, Tr. 1358). The Resident Engineer instructed his personnel to "get with" Appellant's personnel so testing of the new waterstop could be done as soon as possible. (*Id.*).

43. Prior to taking samples from the second shipment of waterstop, Appellant showed Respondent a June 1, 1978, certificate from STG that stated both the first and second shipments were from the same lot as the original approved samples. The material had been inadvertently overlooked in its warehouse. (Baker, Tr. 1311; Elmore, Tr. 530; Bennett, Tr. 1359). This certificate was not officially transmitted to Respondent until almost one year later (R.4, Tab GG; Elmore, Tr. 767), because the Appellant eventually became convinced that the first and second shipments were not from the same lot. (Elmore, Tr. 765).

44. The STG certificate, dated June 1, 1978, pertaining to the "second shipment," (R.4, Tab GG) stated, in part:

> THAT the Saf-T-Grip SS-7 PVC Waterstop, black in color is merchandise which has been in our possession since the original order from Granite Construction.

THAT this material has been manufactured from the same lot as the first half of the project and has been held until released to this point.

THAT this material is in accordance with the Corps of Engineers Specification CRD-C-572 as was the first batch and that all materials are from the same compound and lot.

45. Nevertheless, the second shipment material appeared different from that of the first shipment. (Baker, Tr. 1312-13; Elmore, Tr. 530-32, 764). Material in the second shipment had white numerical markings stenciled down its length while the first shipment did not. The first and second shipments of materials also differed somewhat in width, configuration, thickness of the center bulb and stiffness. (Baker, Tr. 1341). As a result, the Corps questioned whether the first and second shipments were really from the same lot.

46. In early June, 1978, the Corps decided to test material from the second shipment to determine whether it complied with CRD-C 572-74. Samples were taken by the Corps. (R.4, Tab K; Baker, Tr. 1310). As stated earlier, up to this time, Granite thought the Corps had been doing periodic testing of material from the first shipment all along. (Elmore, Tr. 524, 533, 707, 731, 766; R.4, Tab T). The Corps did not inform Granite that it was not taking or testing waterstop samples during the period from the delivery of the first shipment in October, 1977, to the embedment of waterstop in April, 1978 (Bennett, Tr. Vol. 5/19 at 62-64) nor did it inform Appellant that it was taking and testing such samples. Although the Area Engineer picked up some scrap pieces of waterstop around the Project, the Corps had not tested any

further samples from the first shipment. (Baker, Tr. 1303).

47. Eventually, five samples from the second shipment were tested by the Corps for ultimate elongation and tensile strength. (R.4, Tab K). One of the samples passed both tests, but the other four failed. One sample was tested for low temperature brittleness, stiffness in flexure, accelerated extraction and effect of alkalies. This sample did not meet numerical values set out in the specifications, except for the effect of alkalie tests. (*Id.*). WES, however, only had made one "specimen" from each sample rather than the five specimens required by CRD-C 572-74.

48. About June 19, 1978, Respondent was orally informed by WES personnel that they did not believe the latest sample would pass. (Bennett, Tr. 1350). Immediately, Appellant was informed of this development. (Bennett, Tr. 1359). Written confirmation from WES that the samples from the second shipment did *not* meet the requirements of CRD-C-572-74 was received by the Resident Engineer on June 22, 1978. (*Id.*; R.4, Tab K). Later tests performed by Appellant on the second shipment of waterstop also confirmed the nonconforming nature of this material. (R.4, Tab KK, LL).

49. Since Appellant had repeatedly certified and maintained that the first and second shipment of waterstop were from the same lot, Respondent informed Appellant that *all* of the waterstop was rejected on June 22, 1978. (Bennett, Tr. 1359). Then, Appellant reversed its previously held position that both shipments were from the same lot. (Elmore, Tr. 533; Baker, Tr. 1315; Bennett, Tr. 1360). The next day, June 23, 1978, Respondent forwarded samples from the *first shipment* to WES for testing. (Ben-

nett, Tr. 1360). By this time, portions of waterstop from the second shipment been embedded in the concrete by Appellant. (Baker, Tr. 1318; 1739; Exh. G-2; Bennett, Tr. 1361). In order to stop Appellant from its continued placement of concrete on waterstop that had been rejected, Respondent informed Appellant that the entire lot of waterstop was rejected by letter dated June 22, 1978. Appellant was further directed by the Respondent to halt concrete placement. (Baker, Tr. 1316; Bennett, Tr. 1363; Exh. A-8).

50. On June 26, 1978, the Resident Engineer received oral notification from WES that the material from the *first* shipment had *failed* the "second tests." Appellant was informed of this development the same day. (Bennett, Tr. 1361; Baker, Tr. 1316). The test results of this shipment showed the following: (Elmore, Tr. 541, 545; App. Exh. A-9; R.4, Tab L):

a. *Tensile strength:* Two of the eight samples met the test value set forth in the specifications. The average was 13% below the specifications.

b. *Ultimate elongation:* None of the samples met the test values set forth in the specifications. The average was 13% below the specifications.

c. *Low temperature brittleness:* None of the samples passed; the average temperature at which failure occurred was —18 degrees F.

d. *Stiffness in flexure:* One sample was tested and passed.

e. *Accelerated extraction (ultimate elongation):* One sample was tested and was 14% below specifications.

f. *Accelerated extraction (tensile strength):* One sample was tested and was 21% below specifications.

g. *Effects of Alkalies:* One sample was tested and met the specifications.

Later tests conducted by Appellant also revealed the substantial nonconformity of the first shipment. (R.4, Tab KK, LL).

51. Granite shut down its concrete operations of June 22, 1978. The concrete pours were on the critical path. (Elmore, Tr. 536-38).

52. At trial, the Respondent asserted that at this point in time, there was no reason for Appellant to shut down its entire concrete operations because there were other concrete placements that could have been made in several different areas at the job site. (Bennett, Tr. 1367; Elmore, Tr. 713).

53. In the meantime, the parties agreed immediately to obtain 5000 feet of "Vinylex" waterstop. (Elmore, Tr. 537). This waterstop had been approved by the Corps. (R.4, Tab P).

54. About June 23-27, 1978, Granite proposed that: (a) the Corps allow Granite to leave in place the Saf-T-Grip Specialities waterstop already embedded in the concrete, (b) cut it off one foot above the concrete, (c) splice Vinylex onto it, and (d) proceed upward with the Vinylex waterstop. (Elmore, Tr. 539-40, 574-75, 681, 689-92; Raphael, Tr. 891). This corrective measure was referred to as the "cut and splice" method.

(Bennett, Tr. 1382). The Corps did not agree to this. (Elmore, Tr. 540, 689; Raphael, Tr. 898-99; App. Exh. A-17, 25; Gov. Exh. G-3). Respondent rejected this method because, among other things, it believed that this was not a "true repair" of the defective material, and because of the "mismatch" in physical parameters between the Vinylex waterstop and the

embedded Saf-T-Grip waterstop. (Raphael, Tr. 911-14; Baker, Tr. 1347; Bennett, Tr. 1383; App. Exh. A-6, Gov. Exh. G-1). The contract specifications required all splices to match up "in true alignment." (R.4, Tab Z).

55. During this period, Granite orally requested that it be provided with the Corps' design criteria or calculations for the waterstop so that it could hire a consultant to determine whether the Saf-T-Grip waterstop was adequate. (Exh. A-35; Bennett, Tr. Vol. 5/19, at 78). The Corps did not provide "the design calculations." At trial, the Corps stated that waterstop was an "off the shelf" item and not one that was specifically designed for individual dams. (Cain, Tr. 1080; Bennett, Tr. Vol. 5/19 at 78).

56. On June 26, 1978, John Bennett, the Government's Resident Engineer had conversations with Appellant's Tom Elmore. (App. Exh. A-50, p 4). Mr. Bennett rejected all installed waterstop because it was "something less" than the specifications required. (Elmore, Tr. 541, 547; R.4, Tab Q; Bennett, Tr. Vol. 5/19 at 79, 83). In his diary of June 26, 1978, Mr. Bennett noted:

> Contr wants to know the Gov will or can accept the waterstop recognizing its actual test value. Contr wants to know our criteria for accepting defective waterstop.
> Gov advises that they won't accept less than req'd GP-10.

Thus the Resident Engineer would not accept the Saft-T-Grip waterstop under GP 10. (Bennett, Tr. Vol. 5/19 at 77).

57. Next Granite proposed a "rerouting method" of repair. (Elmore, Tr. 576-78, 678-79, 690-92; 696;

App. Exh. A-38). It was Granite's second choice. (*Id.*, 1720; Raphael, Tr. 900-03). This method called for Granite to embed additional, conforming waterstop as depicted in Appellant's Exhibits 18, 19, 26, and 27. (Elmore, Tr. 576-78, 621-29). Under this procedure, Granite would cut off the Saf-T-Grip waterstop, splice the new Vinlyex waterstop to the embedded Saf-T-Grip waterstop and extend the Vinylex to the outside edge of the monolith wall. The waterstop could be embedded in a strut or, as an optional treatment, in a slot chipped into the concrete. (App. Exh. A-18, 19; Elmore, Tr. 576-79). In either event, the vertical segment of Vinlyex could be embedded at a later date, and the delay to concrete placement would be minimal. (Elmore, Tr. 541, 585, 690-93).

58. However, during the June 22 to June 28, 1978 period, the Corps adhered to its position that leaving Saf-T-Grip Specialities waterstop in the concrete was not acceptable. Though the Contractor's proposals for correcting the concern over the defective waterstop already in place were fully considered by the Government, the Government determined that the proposed fixes were unacceptable as remedying the concerns and potential serious problems of having waterstop material installed in the project which did not meet contract specifications. (Cain, Tr. 1032-33, 1034; Bennett 1377-78, 1387). At this juncture, the Corps only would accept *total removal* of the Saf-T-Grip Specialities waterstop. (Elmore, Tr. 547, 585, 630, 689). Likewise, the Corps' Area Engineer stated that the Saf-T-Grip waterstop had to be *removed and replaced* and that the Corps would accept nothing less. (Elmore, Tr. 6767, 686, 689; Bennett, Tr. Vol. 5/19 at 78, 82; Cain, Tr. 1080, 1099).

59. On June 28, 1978, the Corps confirmed earlier discussions by stating:

> Failing test results have now been received on waterstop known to be from both the first and second shipments. This will further confirm our oral and written directives *that all waterstop of first and second shipments is rejected and must be replaced* with acceptable waterstop before embedment of waterstop in concrete is resumed. This will verify our oral instructions to you to submit corrective measures for approval for installing waterstop that complies with the contract requirements. You are urged to expedite the submission and implementation of these corrective measures in order that concrete placement might resume on the affected monoliths at the earliest possible date. . . . (Emphasis added) (R.4, Tab M).

60. By letter dated June 27, 1978, Granite submitted a method of correction for instances where waterstop was only embedded in the mud slab. (R.4, Tab O). This was approved by letter dated June 29, 1978 (R.4, Tab P; Bennett, Tr. 1368-69, Vol. 5/19 at 79-82-86; Cain, Tr. 1080).

61. By letter dated June 29, 1978, Granite proposed various methods of repair, including the cut and splice method. (R.4, Tab Q). The methods of repair were based on discussions with the Corps and were aimed at identifying methods which would be acceptable to the Corps. (Elmore, Tr. 540-41, 689-91).

62. Representatives of District's Engineering Division visited the jobsite on June 29, 1978. They met with Granite and reviewed its proposed methods of repair. (Cain, Tr. 1077-80). They called WES, and

WES orally informed them that the quality of Saf-T-Grip Specialities waterstop was poor. (Cain, Tr. 1032). They, together with the Area Engineer and Resident Engineer, determined that certain of the Contractor's proposals were acceptable, if modified. During the visit, the Government representatives from the Engineering Division determined that leaving the Saf-T-Grip Specialities waterstop in place was unacceptable. (Cain, Tr. 1077).

63. By letter dated June 30, 1978, the Resident Engineer informed Granite that "the methods outlined in your letter are not acceptable as submitted." Further, the Resident Engineer detailed acceptable procedures. The approved methods of correction of the non-conforming Saf-T-Grip waterstop material required *total removal.* (R.4, Tab R).

64. Granite proceeded with replacement and repair of the waterstop, utilizing methods generally set out in the Resident Engineer's letter of June 30, 1978. (R.4, Tab R). In general, these methods required the contractor to remove, by pneumatic chipper, the old waterstop and surrounding concrete, and to insert new waterstop, rebar, and concrete. In actual fact, the Government required remedies were not greatly different from some of the later Contractor proposed solutions. (Bennett Tr. 1367, 1379, 1381, 1385, 1391-92).

65. By letter dated July 6, 1978, Granite informed the Corps it was proceeding with the methods set out in the Resident Engineer's letter dated June 30, 1978, with the exception of chipping all the way down through the first monolith of concrete. (App. Exh. A-35). Chipping through the first monolith would have required a hole approximately 4 feet by 6 feet

square. (Elmore, Tr. 668; Bennett, Tr. 1392; App. Exh. A-28). In lieu thereof, Granite proposed rerouting to the face. In this letter, Granite again requested the Corps' design calculations for the project. (App. Exh. A-35).

66. By letter dated July 7, 1978, Granite summarized the events regarding the waterstop. Granite informed the Corps that it would claim for all costs associated with the waterstop repair, including delay, overhead and impact costs. (R.4, Tab T).

67. By letter dated July 11, 1978, the Resident Engineer informed Granite that its proposed alternate for the one lift condition was acceptable. He also stated that "the design calculation for the waterstop will not be forwarded as the alternative of leaving the defective waterstop in place has been disapproved." (Elmore, Tr. 670-71, 675; App. Exh. A-36; Bennett, Tr. Vol. 5/19 at 103).

68. The Appellant began replacing Saf-T-Grip waterstop about June 22, 1978. The last Saf-T-Grip waterstop was removed and replaced on October 6, 1978, (Elmore, Tr. 688) except that, by agreement, about 50 to 100 feet of Saf-T-Grip waterstop was left in place. (Tr. 1731).

69. Appellant sued Alpha, VIMCO, Saf-T-Grip and Stafford [sic], the suppliers of the waterstop, in Federal District Court in Aberdeen, Mississippi. It recovered $400,000 from VIMCO and Stratford by settlement, and it obtained a default judgment against Saf-T-Grip and Alpha (the supplier) in the amount of $897,000. (R.4, Tabs DD, HH). In its complaint against the defendants, Appellants alleged, among other things, that the defendants had breached certain warranties by furnishing defective waterstop mate-

rials. (R.4, Tabs DD, II). The proof of damages in the District Court default judgment was $894,750. (R.4, Tab II, default judgment Tab HH; Tr. 140). The Appellant assigned its rights against Saf-T-Grip and Alpha to certain insurers, agreed to pursue its claim (this appeal) against the Respondent and to furnish one half of any recovery to VIMCO and Stratford or their insurers. (R.4, Tab II, Settlement Agreement).

70. The evidence by Appellant in its suit in the U.S. District Court in Mississippi against the defaulted, absent, Saf-T-Grip and Alpha was that Appellant's costs were as follows:

Labor, material and equipment:	$415,660
Loss of efficiency	$282,768
100 days delay	$274,660
Shared delay	$348,210
Other costs-various items	Est. $2,538,388
For a total claim of	Est. $3,859,686

(R.4, Tab H; Tr. 125-137).

71. The waterstop material supplied by Saf-T-Grip came from Alpha Extruders, Ltd. of Ontario, Canada (R.4 Tab KK).

The Parties' Arguments

The Contractor asserts that the Government had the duty to test the waterstop material and that it failed to perform that duty to the great detriment of the Contractor. (App. 1st Br., part III A). The Government counters this by arguing that the Contractor was obligated to *select* samples and tender them to the Corps for testing by the Corps, and the Contractor's failure to do this relieved the Corps from any duty of testing. (Gov. Br., part III A).

The Government's second argument is that this was Canadian material obtained in violation of the "Buy American Act." (Gov. Br. part III B). The Contractor asserts that there is no proof of manufacture in Canada, (Appellant's reply Br., p. 8), and that replacement was an improper remedy.

The Government argues that it was misled by the Contractor's certificates that the material complied with the contract. The Appellant responds saying that the cause of the Government's failure to test was not the existence of certificates but was the Government's erroneous interpretation of the test specification as to who had the duty to test the waterstop material.

The Contractor next argues that it was wrong for the Government to insist on replacement of the waterstop because of the huge expense caused thereby.

The Contractor asserts that its expert witness demonstrated that the rejected material was more than adequate for the stresses imposed on it by the forces of nature at the Aberdeen Lock. Thus, the Government's insistence upon removal and replacement was arbitrary. The Government, for its part, insists that it had the right to insist on strict compliance with the specifications. The Government argues that the Contractor had no right to supply nonconforming material and force the Government to accept it. (Government's Br., parts III C and D). Further, the Government argues that the Appellant's expert witnesses failed to consider numerous factors, and thus they did not prove that the rejected material was adequate.

The Contractor argues that the corrective measures required by the Government were clearly excessive, while the Government argues that these measures were the minimum necessary. (Appellant's Br., parts B and C; Respondent's Br., parts C, D and E).

The Government argues that the Appellant, by electing to sue its supplier, has waived any claim against the Government. (Respondent's Br., part III F).

The final Government argument is that the Appellant's settlement of its claim against its vendors establishes that the Contractor has suffered no injury, and thus it has no valid claim against the Government. (*Id.*, part G).

Decision

The basic issue in this appeal can be stated simply. Which party to the contract had the responsibility for guarantying that the waterstop material specified in the contract was provided in the construction of the project? From the terms and conditions of the contract specifications and from the review of normal contract interpretation rules and law, the answer is clearly the Contractor.

Generally, the Contractor who is successful in bidding a fixed price contract is responsible for obtaining the materials called for therein; and further the Contractor assumes the risk for its inability to fulfill the responsibility. *Bromley Contracting Company, Inc.*, GSBCA No. 6965, 85-3 BCA ¶ 18,428, *Malor Construction Corporation*, IBCA No. 1688-6-83, 84-1 BCA ¶ 17,023. In this case, there is no dispute that the initial waterstop material provided and installed by the Contractor did not meet the contract specifications. Therefore, unless the contract shifts the primary responsibility for the waterstop material meeting contract specifications from the Contractor to the Government, the Contractor must bear the expense of its providing the defective waterstop material.

In considering the contract specifications, the first pertinent provision to be reviewed would be GP-32, Contractor Inspection System. This clause places upon the Contractor the responsibility to "maintain an ade-

quate inspection system and perform such inspections" to assure the work performed by the Contractor meets "contract requirements."

The next significant provision would be SP-38, Contractor Quality Control. By this clause, the Contractor is required "to establish a Quality Control system to perform sufficient inspection and tests of all items of work, including that of his subcontractors, to insure" all work and materials meet contract requirements. Further, the clause states that, "where the technical provisions of the contract provide for Government *quality control or assurance* by inspections or testing, *it shall not relieve* the Contractor from the responsibility of doing such testing or inspection as is necessary to assure himself or the Government that the specifications are being met." (Emphasis added).

It is within the above parameters that the contract specifications pertaining to the waterstop material are included. The technical provisions establish for the Government a testing procedure for quality control and assurance of the waterstop-material; but as clearly stated in the Contractor's quality control requirements, the Contractor has the primary responsibility to assure that the materials it provides for the project meet contract specifications. This the Contractor did not do.

The specifications state unequivocally the technical requirements for the waterstop material, which the Contractor was to meet. The Contractor had the duty and obligation to procure and to provide the waterstop material meeting the technical specifications. The Contractor does not deny this; in fact, the Contractor's first submittal for testing met those requirements. At no time did the Contractor inform the Government that it was utilizing waterstop material not meeting the specifications. The Contractor provided

technical data and certifications that the follow-on waterstop material was from the first batch tested and met the technical specifications.

When it becomes self-evident that the later material was not from the first batch and did not meet the required specification, the Contractor attempted to shift its duty of providing the contract-required material to the Government.

The Contractor asserts that the Government is responsible for the Contractor's supplier not providing the proper waterstop material, because the Government did not test the material as often as it should have tested. Though the contract allows the Government to test the material for its own benefit, the primary responsibility for providing the proper material is the Contractor's. The Contractor has full quality control responsibility to assure that the material provided met the contract specification. This it did not perform. The Contractor, by nonperformance, cannot shift the burden to the Government for assuring the material used in the construction effort meets the specifications.

Under the specifications of this contract, the Appellant could not rely on Government inspection for correction of errors in the performance of its work. *Kaniner Construction Corp. v. United States*, 203 Ct. Cl. 183, 488 F.2d 980 (1973); *Gene Fuller, Inc.* ASBCA No. 21682, 79-2 BCA ¶ 14,039. Further, to shift the burden to the Government for assuring compliance with contract specifications under the facts of this case would render meaningless both GP-32 and SP-38, and is unacceptable. *Mercury Construction Corp.*, ASBCA No. 23156, 80-2 BCA ¶ 14,668; *Robert McMullan & Son, Inc.*, ASBCA No. 21455, 77-1 BCA ¶ 12,456.

In the alternative to its legal position discussed above, the Appellant attempts to make an equity argument as to whose responsibility it was for assuring that the waterstop material met contract specifications and as to the corrective action required by the Government after the discovery of the Contractor supplied defective waterstop material. This equity position of the Appellant is not supported by either facts or law. The Contractor and its suppliers misled the Government throughout the initial placement of the waterstop material. The Contractor assured the Government that all the material being used was from the first approved batch of waterstop material —which was not true; the Contractor provided the supplier's literature to the Government—which was inaccurate and misleading; and the Contractor provided certifications that the waterstop material being placed met the contract specifications—which was not accurate. At the very least, the Government had every right to believe that the Contractor was assuring that the specified waterstop material was being used.

Because of these affirmative, misleading actions by the Contractor, there is no valid argument of equitable estoppel against the Government's insisting on what was specified in the contract. When a contract clearly specifies what is wanted, the Government is entitled to have the specification followed and the Contractor is obligated to provide that which is called for in the specification. *Farwell v. United States*, 137 Ct. Cl. 832, 115 F. Supp. 927 (1957); *American Electric Contracting Corp. v. United States*, 217 Ct. Cl. 338, 579 F.2d 602 (1978). The Government has the right to insist on Contractor performance in strict compliance with its specifications. *Jet Con-*

struction Co., Inc. v. United States, 209 Ct. Cl. 200, 531 F.2d 538 (1976); *Cascade Pacific International v. United States*, 773 F.2d 287 (Fed. Cir. 1985). *Atlas Fabricators, Inc.*, ASBCA No. 17556, 75-2 BCA ¶ 11,350; *Blake Construction Co., Inc.*, GSBCA No. 3590, 73-1 BCA ¶ 9819.

As a last position against the Government, the Contractor asserts that the Government should not have insisted that the Contractor tear out and replace the waterstop material already used in the construction. The Contractor alleges that the cost far exceeded the benefit from the replacement. As noted previously, the Government is entitled to what it specified. However, equally significantly, the Government considered alternative solutions to tearing out the waterstop material and found no alternative solution which met the technical requirements of the Government. The Government provided cogent reasons for the need to replace the material; and this Board will not substitute its judgment for the technical expertise of the Government, which found the specified waterstop material to be essential for the assured effectiveness of the project. In fact, the Government suggested corrections were reasonable, and the Contractor is not entitled to compensation for correcting its own defective work. *Coac, Inc.*, IBCA No. 1004-9-73, 74-2 BCA ¶ 10,982.

Further, the alternative proposed by Appellant did not meet the specifications, and the Government has a right to reject and replace defective work rather than accept an equitable adjustment. *S.S. Silberblatt, Inc. v. United States*, 193 Ct. Cl. 269, 433 F.2d 1314 (1970). *Tom Page & Co.*, ASBCA No. 22208, 80-2 BCA ¶ 14,729. The Appellant's experts were not persuasive in asserting that the defective waterstop material would work anyway, especially when the

failure of the waterstop in the finished project would be significant and extremely expensive to correct, if at all correctable.

The Government utilized considerable effort in designing the project. Project utility, functionality and safety were given thorough consideration. The plans and specifications expressed clearly what the Government considered essential and what the Government required. A Contractor cannot be allowed to redesign a Government project, when the Government has clearly and concisely specified the requirements in the contract documents. The fact that a Contractor thinks a lesesr performance characteristic of a material is adequate for project construction and function purposes cannot be a substitute for the Government's determination of what is needed for technical soundness. *Stallings & McCorrey, Inc.*, ASBCA No. 22668, 78-1 BCA ¶ 13,339 (1978); *Allen M. Campbell Co.*, ASBCA No. 16934, 72-2 BCA ¶ 9[illegible]29 (1972).

It is clear that the specifications plac[illegible] the Appellant on notice of the overall quality for the waterstop and for considering any substitute material. *R.R. Mongeau Engineers, Inc.*, ASBCA No. 29341, 87-2 BCA ¶ 19,809. From the proceeding, it is obvious Appellant has not met the general burden of establishing that the substitute waterstop material met the contract specifications or the essential characteristics for assuring project performance. *Central Mechanical, Inc.*, ASBCA Nos. 29360, 29514, 84-3 BCA ¶ 17,674.

Thus, as the installed waterstop material tested well below contract requirements, as a failure of the significantly inferior waterstop material could impair seriously the project purposes, as the Appellant's presentation was not convincing that the installed waterstop material would perform as necessary for the

project, and as the Government insisted on the replacement of the previously installed non-conforming waterstop only after full technical evaluations of proposed alternative options, the Contracting Officer *did not abuse* its discretion in requiring the taking out of the non-conforming waterstop and replacing with material meeting the clear and concise contract specifications. *Solis Enterprises, Inc.*, VABCA No. 1576, 84-3 BCA ¶ 17,606.

Because of the Board's decision on the basic issue of this Appeal, the subsidiary issues raised by both parties need not be addressed.

The appeal is DENIED.

Concurring and Dissenting Opinion by
Administrative Judge Steele

I concur and dissent as follows:

A.

Our first task is to analyze the numerous clauses in this contract which deal with inspection and testing of the waterstop. The first clause is General Provision 32 entitled "Contractor Inspection System." It says that the *Appellant* shall maintain an adequate inspection system and perform such inspections as will assure that the work performed conforms with the contract requirements. (See par. 18 *ante* for a quotation from the clause). The second clause is *General* Provision Ten, Inspection and Acceptance. This clause says that (except as otherwise provided) inspection and test by the *Government* shall be made at reasonable times and not unnecessarily delay the work. (See Par. 18 *ante* for quotations).

These *General* Provisions were modified by *Special* Provisions. SP 27 is entitled, "Retesting of Construction Materials . . . ." It says that "materials . . . submitted by the Contractor as complete and tested will be subject to spot checks . . . . Any retesting due to failure of the materials . . . shall be performed at the Contractor's expense." The cost of *retesting* is largely irrelevant so I move to the next *special* provision which is SP 38 "Contractor Quality Control." This clause is quoted in par. 19 *ante*. It requires the Appellant to establish a Q.C. system of inspection and test of all items and says that a technical provision providing for government inspection or testing shall not relieve the Appellant from responsibility for such test or inspection and testing to "assure himself or the Government that the specifications are being met." Finally, par. 14.3 of the technical specifications provides that the *Appellant* shall submit samples of the waterstop to the Government and the *Government* shall test them in accordance with "CRD 513 and 572." Contrariwise, CRD-C 572-74 provides that the *sampling* and *testing* of finished waterstop and job-made splices will be done by the *Government* . (See Finding 21 *ante* for quotations). Thus, we have the technical provision clearly placing the responsibility for sampling and testing the waterstop on the *Government*, while a special provision says that such a provision "shall not relieve the Contractor from the responsibility of doing such testing or inspection as is necessary to assure himself or the Government that the specifications are being met."

These two provisions read together either are circular or parallel. Thus they provide that either only the Government is to perform the sampling and testing of the waterstop, or they provide that *both* the

Contractor and the Government are to perform the sampling and tests provided in the CRD. Alternatively, one could interpret the two provisions to mean that only the Government will do the sampling and testing, but the Contractor will guarantee the Govenrment's perfomance. This is one meaning of "assure." College edition, Webster's New World Dictionary, 1957.

I resolve this problem of contractual interpretation by examining the parties' practical interpretation of these clauses prior to the time of any dispute about their meaning. This follows one longstanding rule of contract interpretation, "Williston on Contracts," third edition, section 623: "Administration of Government Contracts," J. Cibinic and R. Nash, second edition, p. 123-125.

First, the parties' technical representatives agreed to furnish, use and test certain samples. (See Finding 24). Secondly, way back in November 1977, the Corps' responsible area engineer stated that tests of the waterstop where [sic] wholly the *Government's* responsibility. (See Finding 31).

From these sections I conclude that neither party expected the Appellant to duplicate the WES testing at some private laboratory. Nevertheless, this does not resolve the *legal* meaning of the special provisions which say that the "Contractor shall . . . *assure*" (SP 32), and SP 38, "it shall not relieve the Contractor . . . *assure* . . . the specifications are being met." (Underlining added.) My analysis is made more complex by the provision of GP 10 par. (d) which says that "all inspection and test by the *Government* shall be performed in such a manner as not unnecessarily to delay the work . . ." and par. (a), as well as the provisions of GP 23, "Suspension of Work."

In this process, I am mindful of the various rules of contract interpretation: determine the intention of the parties, follow the plain language of the contract, read the whole contract, avoid conflict or surplusage, utilize the order of precedence rules, construe latently ambiguous terms against the drafter. See, for example, "Administration of Government Contracts," second edition, chapter two. Thus, *General* Provision ten puts the burden of *timely* tests on the *Government*, the CDR puts the burden of *testing* waterstop on the *Government*, while *General* Provision 32 and Provision 38 puts the obligation to *submit samples* of waterstop (to the Government) on the *Appellant* and to have the *Appellant* "assure" that the specifications are being met.

The Appellant failed to submit samples every 200 feet to the Government, but the Government must have known of and waived this failure. The Government promised to conduct the sampling and test the samples. So I come once more to determine whether there is a conflict between the special provision that said the Appellant would "assure" specification compliance, the CDR statement that the Government would test the waterstop and the General Provision that said the Government would test waterstop in a timely manner.

We must assume that the special assurance clause was an authorized deviation from the required GP 32. But this does not resolve our problem of interpretation. 'Assure" has six means: convince, give confidence, promise confidently, guarantee, to insure, and to make secure. The word "assure" in this context is ambiguous. The Government wants us to read it to mean as follows: "Notwithstanding any or all failures of the Government to perform its duties to sample and

test waterstop as stated in CDR-C 572-74, the Contractor will bear all costs, direct, indirect, overhead, delay, consequential or otherwise, flowing from the Government's failure to perform said duties under said CDR." But the "assurance" phase inserted by the Government in the SP was unclear, it did not state unequivocably [sic] that the Contractor would bear all costs caused by the Government's failure to perform as promised in the CDR. In *Thompson Ramo Wooldridge Inc. v. United States*, 175 Ct. Cl. 527, 536, 361 F.2d 222, 228 (1966), the U.S. Court of Claims declined to give broad literal meaning to an exculpatory clause that would negate a general provision of long standing. (The contract to manufacture radio sets contained the standard Government furnished property clause and a special clause that said the Government did not represent that the Government furnished microfilm "is legible in whole or in any particular part." The Court said, "The . . . [Government] must . . . bear the onus of failing to convey exactly the intended scope and interconnection of the two clauses . . ." p. 539).

Compare *Poorva v. United States* 190 Ct. Cl. 640, 420 F.2d 993 (1940) (covenant to repair by tenant not so broad as to create tenant liability overriding the Government's implied warranty of the plans and specifications), *United Contractors v. the* [sic] *United States* 177 Ct. Cl. 151, 368 F.2d 585 (1966), (changed conditions clause not vitiated by disclaimer in specification that other materials might be encountered.), *Fehlhaber Corp. v. the* [sic] *United States* 138 Ct. Cl. 571, 584, 151 F. Supp. 817, 825 (1957), cert. denied, 355 U.S. 877 (The Court held that the exculpatory language in SC-7 "Physical

Data," and par. (d). *Foundation Conditions* did not negate the changed conditions clause, see p. 585), see also "Administrative [sic] of Government Contracts," Second edition, J. Cibinic and R. Nash p. 242-249.

When my review includes GP 10(a) and (d) I conclude that a proper harmonization of all these provisions requires the Government to pay *delay* costs if the Government's sampling and testing of waterstop unreasonably delayed the construction of the dam or lock. Thus, this analysis holds that the Appellant is responsible for the *direct* costs of removal and replacement of the waterstop, while the Government is responsible for costs caused by any unnecessary delay in sampling and testing of the waterstop. Thus I turn to analyze the timing of the inspection and testing of the waterstop.

B.

The parties needed 7200 feet of waterstop for this project. The specification (CRD-C-572-74) required several tests. Par. 14.3.3.1 of the specification required a one foot sample from each 200 feet of waterstop. (R.4, Tab AA). The specification par. 14.3.3.2 also required three test splices, plus another for each 50 factory splices and for every 10 jobsite splices. (See also R.4, Tab CC). The waterstop came in 50 foot rolls.

The Appellant started pouring monoliths needing waterstop on April 3, 1978 and had placed about 800 feet of waterstop by June 22, 1978. (Finding 38, *ante*). Thus the Corps should have performed tests for the lot of waterstop and perhaps 3 more tests for the next 600 feet. 800 feet divided by 200′ is four. Thus the Government should have performed 4 tests by June. (CRD-C 572-74 par. 4 could be interpreted

as requiring only four tests, not 5, for the first 800 feet of waterstop, not including tests of splices). On the basis of 4 tests, one performed before April 3, and each subsequent test performed on each 200 feet of waterstop, the Corps should have done a test about every 17 days from about April 13 to June 22. If this is correct then the Government should have done a test about April 20, May 7, and June 4, before it determined on June 22 that the waterstop did not meet the CRD specifications and directed the Appellant to stop concrete placement requiring waterstop.

In General Provision 10(a) and (d) the Corps promised to do inspection and testing at reasonable times. I conclude that the correct harmonization of the clauses discussed heretofore in this section of the opinion requires the Contractor to pay for the direct cost of rip-out and replacement of nonconforming waterstop and for the Government to be responsible for all of the Contractor's delay costs caused by Government's failure to peform the CRD tests in April, May and June, 1978. Since the testing of waterstop by the Government would normally take perhaps 30 days for each test, I conclude, by hind-sight, that, in effect, the Corps should have issued, and I would hold that in legal effect it did issue, a suspension of work as to placement of concrete and waterstop about June 1, 1978.

C.

I now turn to consider the effect of the provision in GP 10(d) [sic] which says: "The Contractor shall, without charge, replace any material . . . found . . . not to conform to the contract requirements, *unless in the public interest the Government consents to accept such material* . . . with an appropriate adjustment in contract price. . . ." (underlining added.)

On one side of this argument we have cases which hold that the Government is entitled to strict performance of the contract, while on the other side we have the cases which weigh the cost of repairs against the cost of replacement of the nonconforming materials.

The Appellant asserts that the Government had discretion to allow the deficient waterstop to remain embedded and to allow the Contractor to splice on good Vinylex waterstop rather than requiring the Contractor to chip out and remove the Saf-T-Grip waterstop. The Appellant cites *Eller Construction Inc.*, AGBCA No. 77-171-4, 83-2 BCA par. 16,560; *Arnold M. Diamond Inc.* ASBCA No. 15063, 73-2 BCA par. 10,359; *Southwest Welding and Mfg. Co. v. United States,* 88 Ct. Cl. 925, 413 F.2d 1167 (1969). In each case the board or court evaluated the extent and nature of the defect and the integrity and cost of the repairs versus the cost of the removal and replacement of the nonconforming work or material. The critical factor in these decisions seems to be the judges' conclusion as to the seriousness of the defect in relationship to the effort required by the repair procedure. Similarly par. 8.1 of CRD-C-572 (at Tab CC) only says that "The waterstop *may* be rejected if it fails to meet any of the requirements of these specifications." (Underlining added). These considerations blend into an evaluation of the economic costs of the directed procedure as opposed to alternative procedures. The Appellant cites several cases under the rubric of "economic waste["]: as follows: *Valley Asphalt Corp.*, ASBCA No. 17595, 74-2 BCA par. 10,680; *Jacob and Youngs v. Kent*, 129 N.E. 889, 230 NY 239 (1921); 3A Corbin, *Contracts* Sec. 701 (1060), 76 ALR 2d 805, 812; *H.L.C. & Associates*

Const. Co. v. United States, 176 Ct. Cl. 285, 309, 367 F.2d 586 (1966). In this regard, I note the cost evidence presented by the Contractor in the United States District Court in Mississippi. Saf-T-Grip defaulted and did not appear in that action and the other defendants settled with Appellants so no one cross-examined the Appellant's quantum witness and no one presented any rebuttal evidence. Nevertheless, District Court apparently heard evidence of damages up to $6,154,782 (Tab II, 2d Amended Complaint and Tab HH) and entered judgment for the original *ad damnum* of $894,750. Furthermore, two defendants, or their insurance companies, apparently paid Appellant $400,000 after a one day trial of quantum. Thus one could conclude that the cost of Respondent's direction to remove and replace the Saf-T-Grip waterstop cost Appellant at least $400,000. This is a substantial amount when compared to the price of the waterstop *i.e.* $5,700.

However, the record is unclear as to the direct cost of repair versus the delay costs flowing from the repairs. Notwithstanding the dollar cost of this replacement, in this case, I believe that the proper test is more directly related to the technical adequacy of the deficient waterstop for use at the Aberdeen Lock and Dam. We discuss this issue next.

D.

Was the Saf-T-Grip waterstop adequate for the job even though it did not pass the specified tests?

While the parties testified about the Government's design memorandum for this project no one introduced it into evidence. Similarly, neither party produced direct evidence of the design criteria for water-

stop produced to meet the performance tests specified in CRD-C-572. The CRD-C-572 and "Corps waterstop" were developed for Corps projects such as locks and dams to be built under a wide variety of conditions. I do not know the criteria established for the dams. All I know from the record are the performance criteria for the waterstop. I cannot clearly correlate the two. There also was commercial waterstop that was developed for commercial applications.

The Appellant presented an expert witness who had many years experience with the Bureau of Reclamation of the Department of the Interior and nine years as a professor. He gave various opinions and explanations that the rejected Saf-T-Grip waterstop was more than adequate for this project. He calculated safety factors in an apparently conservative manner that seem to indicate that the Saf-T-Grip waterstop had properties such that the safety factors exceeded those apparently used in the design of this project. The Government was notably silent, and it presented no comprehensive response to this testimony. Furthermore the Government never in June or July 1978 made any comprehensive analysis. I speak more about this later herein.

Notwithstanding the above remarks, I am not prepared to find that the Saf-T-Grip waterstop was adequate for use at this project. I reach this conclusion somewhat reluctantly because of the Government's failure to meet this issue head on. Nevertheless, I think that the Board should have had the testimony of a person whose business was the design of locks and dams similar to the one involved in this project. I think that we should have had direct evidence on the criteria normally used by such designers when they specify waterstop and design its placement on these

projects. We did not have this testimony so we do not know whether Appellant's expert's analysis of safety factors correlates with the actual process used by designers of these projects. Of course it is conceivable that such designers have reached a stage that they do not do calculations for waterstop but just specify waterstop that meets the CRD requirements. If that is the fact we should have known it, and we might then have held that Appellant's evidence was sufficient. But we do not have that evidence, and we do not understand the cryptic evidence about the designer's expectations as to the settling of the monoliths on this project. Thus, in summary, I remain unconvinced that the deficient Saf-T-Grip waterstop was adequate for this particular project.

E.

I next turn to an analysis of the Government's duties under GP 10(b).

The clause, in effect, says that the Contractor shall without charge replace and defective material *unless* in the public interest the Government consents to accept same with an appropriate adjustment in the contract price. (See Finding 18 for a quotation of the clause.)

I start my analysis by noting that the Government is under a duty imposed by law to cooperate with its Contractors in the performance of their contracts, "Administration of Government Contracts," Second Edition, p. 212-215. Par. (b) of GP 10 goes further to indicate that the Government must also consider the *public interest* when it discovers nonconforming material or workmanship. Thus the Government owed a duty to the Appellant and the public when it

discovered that the STG waterstop did not meet the CDR specification. But what was the nature of this duty? I think that it was to consider all reasonable alternative solutions to the problem faced on June, 1978, compare "Administration of Government Contracts" lower half of p. 214 and upper half of p. 215. I am concerned that the Government made no analysis of the actual qualities exhibited by the STG waterstop and failed to compare those actuals against the conditions reasonably to be expected at this lock and dam. The Government's "analysis" was limited to methods to completely remove the STG waterstop from the project.

Secondly, the record is unsatisfactory as to the reasonableness of the Corps' rejection of the Appellant's proposals to splice on vinylex waterstop and use it to build a duplicate waterstop either in struts or embedded in the lock walls. While the Government does not have the burden to establish the reasonableness of its decisions, it certainly assists the Contractor in establishing the unreasonable and arbitrary nature of the Government's conduct by failing to fully explain the bases and details of its decision making process.

Thus, I come to the question, did the Government exercise the duties of cooperation and consideration of the public interest when it insisted on almost complete removal of the STG waterstop?

In this regard, I think that the Government improperly failed to consider the stress and other conditions that would exist at the Aberdeen Lock and Dam and compare these with the tested properties of the STG waterstop. This failure constitutes both failure to cooperate and a failure to consider the public interest. Secondly, the Government failed to express a ra-

tional basis for its rejection of several of Appellant's less expensive alternative proposals to remedy the situation. This was a second failure to cooperate and to protect the public's interest.

I am unsatisfied with the analysis under GP 10 made by the Government in June 1978, because I conclude that the only real criterion used by the Government as the basis for its June 28, 1978 order to replace all Saf-T-Grip waterstop was the conformance or nonconformance of that material to the CRD. In the circumstances of this case (where the Government had the technical duty to perform the technical tests of a critical material in a timely manner and where it failed to perform this duty, and where tear out, replacement and delay costs range from $400,000 to perhaps over 3 million dollars on a $36 million project) the Government was expressly obligated by the quoted portion of GP 10 to consider the true performance requirements necessary for the waterstop in this particular project, the performance qualities revealed by the tests conducted at WES and the cost factors of reasonable alternatives. The Government only considered non-compliance with the CRD, and it failed to consider the other factors listed above. This failure was a breach of contract. The Government failed to exercise the discretion granted to it in the clause. This failure made the decision arbitrary and capricious. Nevertheless, the relief that the Appellant should obtain under a breach of this duty is duplicative of the relief which I would provide earlier in this opinion.

The Board should make the following holdings.

Conclusion

The Appellant is entitled to delay costs caused by the direction to remove and replace waterstop from June 1, 1978 to about October 6, 1978 under the Suspension of Work Clause.

The Appellant is not entitled to its other costs for removal and replacement of the waterstop from June 28, 1978 to October 6, 1978.

APPENDIX E

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

91-5107

GRANITE CONSTRUCTION COMPANY,
PLAINTIFF-APPELLANT

v.

THE UNITED STATES, DEFENDANT-APPELLEE

ORDER

[Filed May 29, 1992]

Before NEWMAN, Circuit Judge, COWEN, Senior Circuit Judge, LOURIE, Circuit Judge.

A petition for rehearing having been filed in this case,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for rehearing be, and the same hereby is, denied.

The suggestion for rehearing in banc is under consideration.

The mandate will issue on June 5, 1992.

FOR THE COURT

/s/ Francis X. Gindhart
FRANCIS X. GINDHART
Clerk

Dated: May 29, 1992

cc: ADRIAN L. BASTIANELLI, III
SCOTT E. RAY

APPENDIX F

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

91-5107

GRANITE CONSTRUCTION COMPANY,
PLAINTIFF-APPELLANT

v.

THE UNITED STATES, DEFENDANT-APPELLEE

ORDER

[Filed Jun. 10, 1992]

A suggestion for rehearing in banc having been filed in this case,

UPON CONSIDERATION THEREOF, it is

ORDERED that the suggestion for rehearing in banc be, and the same hereby is, declined.

FOR THE COURT

/s/ Francis X. Gindhart
FRANCIS X. GINDHART
Clerk

Dated: June 10, 1992

cc: ADRIAN L. BASTIANELLI, III
SCOTT E. RAY

APPENDIX G

CHAPTER 5—JUDICIAL REVIEW OF ADMINISTRATIVE DECISIONS

Sec.

321 Limitation on pleading contract provisions relating to finality; standards of review.

322. Contract provisions making decisions final on questions of law.

§ 321. Limitation on pleading contract provisions relating to finality; standards of review

No provision of any contract entered into by the United States, relating to the finality or conclusiveness of any decision of the head of any department or agency or his duly authorized representative or board in a dispute involving a question arising under such contract, shall be pleaded in any suit now filed or to be filed as limiting judicial review of any such decision to cases where fraud by such official or his said representative or board is alleged: *Provided, however*, That any such decision shall be final and conclusive unless the same is fradulent [1] or capricious or arbitrary or so grossly erroneous as necessarily to imply bad faith, or is not supported by substantial evidence.

(May 11, 1954, ch. 199, § 1, 68 Stat. 81.)

AGENCY ACTIONS GENERALLY, JUDICIAL REVIEW

Judicial review of agency actions generally, see section 701 et seq. of Title 5, Government Organization and Employees.

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[1] So in original. Probably should be "fraudulent".

§ 322. Contract provisions making decisions final on questions of law

No Government contract shall contain a provision making final on a question of law the decision of any administrative official, representative, or board.

(May 11, 1954, ch. 199, § 2, 68 Stat. 81.)

APPENDIX H

41 C.F.R. 1-16.402(a) (1976)

§ 1-16.402 Required use.

(a) Except as provided in § 1-12.403-2, the forms prescribed by § 1-16.401 shall be used for fixed-price contracts, entered into pursuant to formal advertising, for construction (including alteration or repair) of public buildings or works, except for: Contracts for the construction, alteration, or repair of vessels; and contracts for construction, alteration, or repair work in foreign countries.

41 C.F.R. 1-16.901-23A(c)

§ 1-16.901-23A Standard Form 23-A, General Provisions (Construction Contract).

10. INSPECTION AND ACCEPTANCE

(a) All work (which term includes but is not restricted to materials, workmanship, and manufacture and fabrication of components) shall be subject to inspection and test by the Government at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of the Government and shall not relieve the Contractor of the responsibility of providing quality control measures to assure that the work strictly complies with the contract requirements. No inspection or test by the Government shall be construed as constituting or implying acceptance. Inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Government

after acceptance of the completed work under the terms of paragraph (f) of this clause, except as hereinabove provided.

(b) The Contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(c) If the Contractor does not promptly replace rejected material or correct rejected workmanship, the Government (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or (2) may terminate the Contractor's right to proceed in accordance with the clause of this contract entitled "Termination for Default—Damages for Delay—Time Extensions."

(d) The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Contracting Officer. All inspection and test by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract. The Government reserves the right to charge to the Contractor any additional cost of inspection or test when material or workmanship is not ready at the time specified by the Contractor for inspection or test or when reinspection or retest is necessitated by prior rejection.

(e) Should it be considered necessary or advisable by the Government at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work if found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compensate the Contractor for the additional services involved in such examination and reconstruction and, if completion of the work has been delayed thereby, he shall, in addition, be granted a suitable extension of time.

(f) Unless otherwise provided in this contract, acceptance by the Government shall be made as promptly as practicable after completion and inspection of all work required by this contract, or that portion of the work that the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except as regards latent defects fraud, or such gross mistakes as may amount to fraud, or as regards the Government's rights under any warranty or guarantee.

APPENDIX I

7:278 Armed Services Procurement Regulation 7-602.11

7-602.11 Inspection and Acceptance.

INSPECTION AND ACCEPTANCE (1976 OCT)

(a) All work (which term includes but is not restricted to materials, workmanship, and manufacture and fabrication of components) shall be subject to inspection and test by the Government at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of the Government and shall not relieve the Contractor of the responsibility of providing quality control measures to assure that the work strictly complies with the contract requirements. No inspection or test by the Government shall be construed as constituting or implying acceptance. Inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of the Government after acceptance of the completed work under the terms of paragraph (f) of this clause, except as hereinabove provided.

(b) The Contractor shall, without charge, replace any material or correct any workmanship found by the Government not to conform to the contract requirements, unless in the public interest the Government consents to accept such material or workmanship with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(c) If the Contractor does not promptly replace rejected material or correct rejected workmanship,

the Government (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor, or (2) may terminate the Contractor's right to proceed in accordance with the clause of this contract entitled "*Termination for Default—Damages for Delay—Time Extensions.*"

(d) The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Contracting Officer. All inspection and test by the Government shall be performed in such manner as not unnecessarily to delay the work. Special, full size, and performance tests shall be performed as described in this contract. The Government reserves the right to charge to the Contractor any additional cost of inspection or test when material or workmanship is not ready at the time specified by the Contractor for inspection or test or when reinspection or retest is necessitated by prior rejection.

(e) Should it be considered necessary or advisable by the Government at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compen-

sate the Contractor for the additional services involved in such examination and reconstruction and, if completion of the work has been delayed thereby, he shall, in addition, be granted a suitable extension of time.

(f) Unless otherwise provided in this contract, acceptance by the Government shall be made as promptly as practicable after completion and inspection of all work required by this contract, or that portion of the work that the Contracting Officer determines can be accepted separately. Acceptance shall be final and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud or as regards the Government's rights under any warranty or guarantee.

APPENDIX J

48 C.F.R. 46.312 (1991)

46.312 Construction contracts.

The contracting officer shall insert the clause at 52.246-12, Inspection of Construction, in solicitations and contracts for construction when a fixed-price contract is contemplated and the contract amount is expected to exceed the small purchase limitation. The contracting officer may insert the clause in such solicitations and contracts when the contract amount is expected to be within the small purchase limitation, and its use is in the Government's interest.

48 C.F.R. 52.246-12 (1991)

52-246-12 Inspection of Construction.

As prescribed in 46.312, insert the following clause in solicitations and contracts for construction when a fixed-price contract is contemplated and the contract amount is expected to exceed the small purchase limitation. The clause may be used in such solicitations and contracts when the contract amount is expected to be within the small purchase limitation and its use is in the Government's interest.

INSPECTION OF CONSTRUCTION (JUL 1986)

(a) Definition. *Work* includes, but is not limited to, materials, workmanship, and manufacture and fabrication of components.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the con-

tract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the Government. All work shall be conducted under the general direction of the Contracting Officer and is subject to Government inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.

(c) Government inspections and tests are for the sole benefit of the Government and do not—

(1) Relieve the Contractor of responsibility for providing adequate quality control measures;

(2) Relieve the Contractor of responsibility for damage to or loss of the material before acceptance;

(3) Constitute or imply acceptance; or

(4) Affect the continuing rights of the Government after acceptance of the completed work under paragraph (i) below.

(d) The presence or absence of a Government inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specification without the Contracting Officer's written authorization.

(e) The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The Government may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The Government shall perform all inspections and tests in a manner that will not unnecessarily delay the work.

Special, full size, and performance tests shall be performed as described in the contract.

(f) The Contractor shall, without charge, replace or correct work found by the Government not to conform to contract requirements, unless in the public interest the Government consents to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

(g) If the Contractor does not promptly replace or correct rejected work, the Government may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.

(h) If, before acceptance of the entire work, the Government decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet contract requirements, the Contracting Officer shall make an equitable adjustment for the additional services involved in the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.

(i) Unless otherwise specified in the contract, the Government shall accept, as promptly as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines can be accepted separately.

Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the Government's rights under any warranty or guarantee.

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